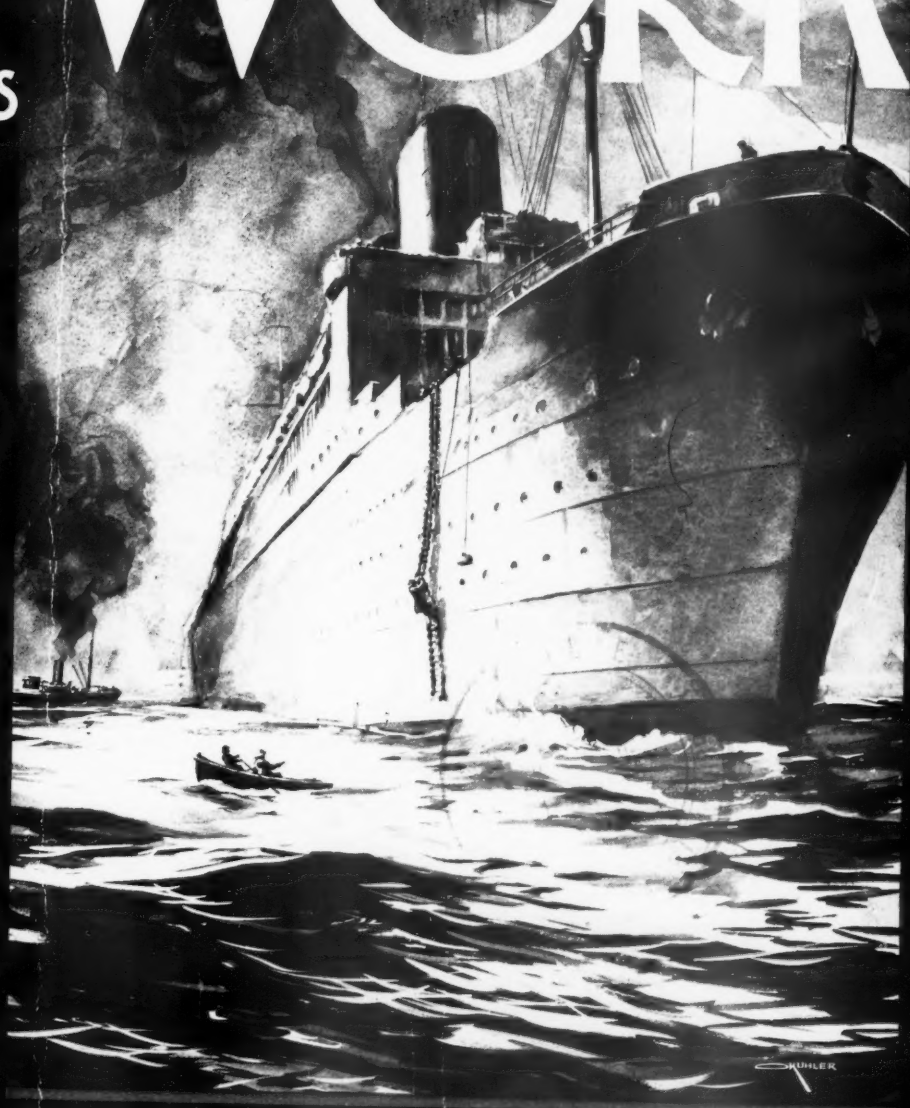
WORLD'S WORK

35 CENTS

JANUARY



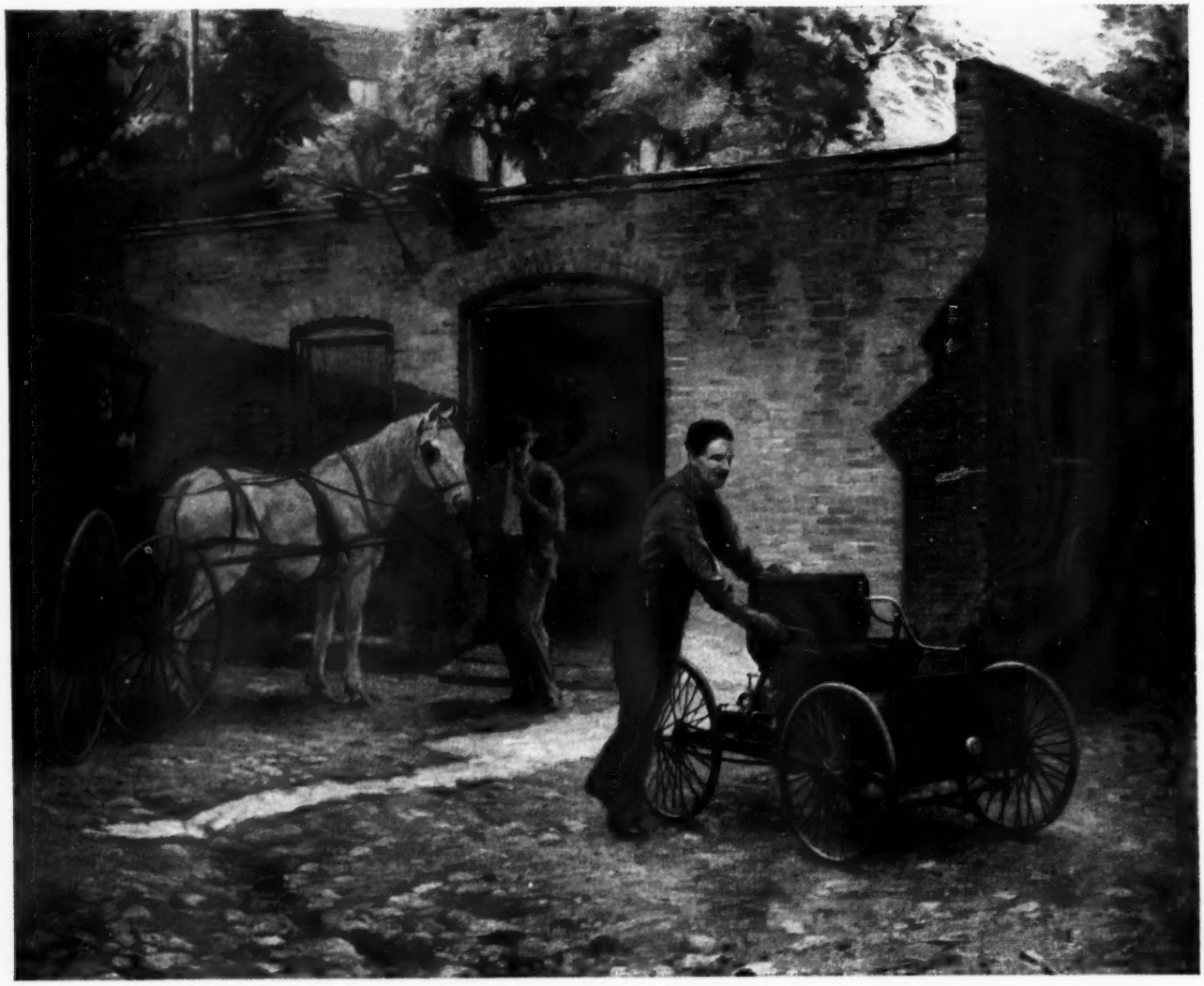
The Why of a Mortgage Bank

U. S. A. Inc., a Balance Sheet

Our Expanding Dollar of 1932

Hartford, Conn., Policy Town

DOUBLEDAY, DORAN & COMPANY, Inc.



THE WHEELS START ROLLING

PROBABLY the most remarkable thing about the first Ford car as it bumped over the sill of the little brick shed on Bagley Avenue, Detroit, and out into the dawn of a spring day in 1893, was that its maker had no doubt whatever about its success!

It scared horses. It blocked traffic by attracting large crowds. It became necessary to chain it to a post to keep investigators from starting it down the street.

Since those wheels first started rolling twenty million Fords have taken to the highways of all the world, shaping modern industry and civilization . . . hundreds of thousands of tractors have speeded up industry and smoothed the furrowed ways of the farmer everywhere . . . hundreds of metal planes have scaled above the clouds to the utmost ends of the earth. And no Ford machine is permitted to go forth without the certainty of success attending it!

There is a sound reason for this! When the Ford Motor Company first went into operation to build, deliver and service an automobile for every-day wear and tear, a machine to be admired and depended upon, principles of manufacture were established which made possible the continuous success of this famous car. These principles, briefly stated, in four sentences, are vital in the Ford organization today:

1. No fear of the future and no enslavement to the past.

2. Disregard of competition, because whoever does a thing best will be accepted as the one who ought to do it.

3. Service before profit; though without profit business cannot extend, without adequate service no business can continue to succeed.

4. Manufacturing is the transforming of the best possible materials into the best possible product for the consumer on a basis of fair cost all around.

This is the reason why Ford methods have become a synonym for modern methods and successful manufacture.

FORD MOTOR COMPANY

World's Work

ALAN C. COLLINS Editor

LAWRENCE M. CONANT Managing Editor

J. A. BENSCHOTEN and W. M. WALKER Associate Editors

JOSEPH STAGG LAWRENCE Contributing Editor

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"Interesting, but---" and so came PRAGMATISM*

WORLD'S WORK might well have been founded by the first man who said, "That's an interesting idea, but it won't work out in practice." He was the first pragmatist.

» There are plenty of ideas in the world, but only a given set of them work at one time. The peculiar and particular combination of ideas functioning simultaneously denotes the tenor of a time and sets its pace. Here is the place filled by WORLD'S WORK. It is a WORLD'S WORK editorial function to find, anticipate, and interpret the dominating ideas of our world from year to year. It is also its function to reject the "Interesting, but—" ideas.

» The ideas that WORK. That is the magazine's field. And to live with intelligence—with direction—in the world today is a necessity for the man of affairs. That's why WORLD'S WORK's subscription lists are filled with the names of men who are *doing* things, not speculating with unworkable plans. Be a man's business the manufacture of door knobs, he cannot conduct it intelligently and with vision unless familiar with the *working* ideas of the rest of the world. He must know not only that they are at work but the *how* of their operation.

» Such ideas are myriad. Here are a few of them that are dealt with in the December and January issues of WORLD'S WORK:

1. **The railroad freight petition and the I. C. C. decision with the hitherto untold story of how the railroad executives, in closed session, decided to ask for the 15% increase.**
2. **What may Congress, with an almost equal division of the parties, be expected to do for business?**
3. **The why of the failure of Transamerica Corporation's attempt to set up the structure for a nation-wide banking system.**
4. **What new Federal Reserve legislation should be passed?**
5. **New methods in transporting and delivering of freight.**
6. **How does our national balance sheet stand at the turn of the year?**
7. **What is and what can a Central Mortgage bank do?**
8. **How can small shareholders hope to obtain any voice in management?**
9. **The explanation of the fact that almost every business is at some time embroiled in a lengthy patent dispute.**
10. **The rising purchasing power of the dollar.**
11. **The Interlake Iron Corporation and why its size and assets must be duplicated in the iron industry.**

» WORLD'S WORK indulges no panaceas. It rejects froth and window dressing, no matter how intriguing. It deals with affairs. It is reliable in its interpretations and predictions. (There are available a dozen instances within the past few months showing how WORLD'S WORK's predictions became fact.) It is *pragmatic.*

***Pragmatism: The doctrine that the whole meaning of a conception is to be sought in its practical consequences.—Webster.**

JANUARY 1932

WORLD'S WORK

THE MARCH OF EVENTS

ANY OLD PORT in a storm, even though the vessel be an ocean liner and the harbor only for small craft.

We have been long familiar with slogans such as "Patronize your neighborhood druggist" and "Buy from your local butcher." People have gone right on purchasing where they received the most for their money.

Now, however, under the pressure of declining sales, disappearing profits, and unemployment, great states have given the Buy-at-Home theme a more grandiose score and put the heavy wind instruments of the law into the pit to support their operatic rôles.

It seems almost inconceivable in this day, when it is so plain that the economic welfare of the country is virtually indivisible, that such a movement should gather real momentum. Yet in more than half the states some such program is already rumbling along.

On the face of it, the following extract from the speech of a vice-president of a concern manufacturing a nationally known and advertised radio is plausible. It is a worthy aim to help the local folks first. He said:

"It is the duty of every manufacturer in Chicago and every consumer of goods in Chicago to buy, in so far as possible, those products which are made in Chicago and which will give employment to Chicago men and women. This would help to solve our employment crisis in a much more constructive way than by buying goods made elsewhere and taking up collections to relieve the needy."

In pursuance of such a policy, Illinois now has a governor-appointed commission, one object of which is to encourage within the state the use of Illinois-made goods. And what does Pennsylvania do in retaliation? It amends its code so that it becomes illegal, in connection with any state project, to buy from another state which bars "foreign" products. The storm of action and retaliation is on.

One may ask in all candor of Illinois how it would like to consume all the meat it packs, or all the agricultural implements it manufactures; of Pennsylvania, how it would use all the coal it mines, of Massachusetts how its feet could put on all the shoes it fabricates. Ridiculous questions in a sense, and yet questions which may one day demand answers if the states take up in deadly earnest the Buy-at-Home movement.

Obviously, A. Atwater Kent might pick up considerable business in Pennsylvania if all radios were prevented from being sold in the Keystone state with the sole exception of his Philadelphia-made set; but for 10 per cent gained, for the few Pennsylvania citizens who might for a time find employment, he would lose eventually a tremendous slice of his business to retaliating states, and thousands of Pennsylvanians would finally be thrown out of jobs because other commonwealths refused to buy Quaker coal, rugs, or what you will.

It seems almost impossible that such a naïve economic doctrine, well-intended as it without doubt is, could gain headway today. Were it not for the depression, it could not. But—any old port in a storm.

The interest other than academic that World's Work has in fighting such a movement is obvious. That interest, however, does not detract from the force of the argument.

Shockproof Public Morality

A SERIES of extended and malodorous episodes disfigure the ledger of history for the past decade. They bear upon the tolerant indifference of the public conscience to glaring acts of official turpitude and the utter ineffectiveness of the punitive processes of democratic government.

No longer ago than 1923 the country learned, presumably to its dismay and indignation, that certain oil lands, valuable national resources, had been alienated to private parties with substantial profit to the aforesaid parties and the public officials whose active intercession made the transaction possible.

The circumstances, epitomized by the black satchel with its Judean message, left no doubt as to the identity and guilt of the participants. One of them, an officer in the cabinet of the nation's Chief Executive, is now atoning for his offense behind prison bars. The conviction was secured at great cost to the government, while what other principals there might have been were able to frustrate the attempt of the government to bring them to justice.

The principal justification of these efforts lay in the salutary example which they might provide for other officials and in the righteous wrath aroused in the breasts of the electorate, a wrath which would find expression in the punishment of the derelict party. In the national elections which followed, the opposition spared no energy in indicating the propriety of such a course. The record eloquently demonstrates the futility of this appeal.

More recently we find the government of the city of New York on trial not only for incompetence but for malfeasance and corruption. Judge Seabury's searching investigation can leave no doubt in the mind of any citizen that Tammany as a whole and in its individual parts has battened on the opportunities at its disposal.

The shameful vice racket conducted by the police of the metropolis constitutes one of the most sordid records in the history of municipal government. The bank deposits of individual leaders are utterly incompatible with the salaries which they received as city officials and prove beyond all doubt the abuse of their trusts.

The philosophic concept of democracy demands that such officials be precipitated from their positions with appropriate added punishment. In the very midst of the Seabury revelations an election took place which demonstrated the power of an indignant democracy. Tammany was retained by unprecedented majorities! Even after making full allowance for the well-known ability of this organization to secure—and count—votes, the failure of popular purification to function must be sought in deeper fissures. There is a growing suspicion that the public conscience, so extravagantly exalted in the catechism of democracy, is merely the moral sensibility of those idealists who have provided us with its literature. The great body of voters when alone in a voting booth do not give a tinker's dam about the hundreds of thousands of misspent public funds.

The condition is general. The government of the city of New York is no better and no worse than that of Philadelphia, Chicago, Boston, St. Louis, or any number of other cities. Although the officials of Tammany are the ostensible defendants at the moment, it is the electorate which is really on trial.

Say Not So

FROM the land of the czars comes uneasy intelligence. Fragmentary items indicate that the great experiment is encountering obstacles. This is most inopportune, for our liberal thinkers have been practically united in the conviction that capitalism is now fighting its last battle and that the current distress is merely the mortal agony of a system that has outlived its usefulness. Russia has been carefully groomed as the model for the new order.

The exact state of the model is in some doubt. Physically vast, emotionally subtle, intellectually complex, it has been impossible to appraise Russia except in microscopic decimals. The wanderers who return remind us of nothing so much as the fable of the three blind men who went to the fair to determine the appearance of an elephant. One felt his tail, another his trunk, the third his side. The return journey was occupied with bitter controversy. Did the elephant look like a rope, like a tree, or like a stone wall?

Because of the limitations of individual vision and that peculiar twist of the Soviet intelligence which causes it to provide only those facts which will tend to support a previously determined purpose, it is next to impossible to ascertain the actual progress of the great planners.

Reports of certain difficulties have eluded the vigilance of the communist censors. It has been found necessary to modify the socialist principle of equal participation in income. Soviet factories have adopted the practice of extra remuneration for workers who do more than their allotted tasks. This has all the earmarks of a dangerous compromise. We also know that it has been necessary to ration work. Although communist apologists maintain that this is one of the fruits of the great experiment, competent foreign observers bring us tales of technical inefficiency which impeach the truth of that version.

Finally we have the startling overnight change in the world wheat market, due in part to Soviet difficulties in making wheat deliveries. Can it be that the kingdom of social control is not immune to the

world-wide disease of cyclical distress? That is probably true. But it also seems true, from the news of the past few weeks, that the Russian bulls in industry's china shop are discovering to their consternation that the economic set-up which sponsored the machines and the technical knowledge they embrace so avidly is not to be lightly cast aside.

The Scapegoat

OUT of the hoary mists of Biblical legend issues the vision of the Jewish patriarch laying his hands upon the head of a live goat and reading over him the sins and transgressions of the children of Israel.

Old as this incident is, we may be permitted to suspect that it was no innovation at the time but merely the overt crystallization of a practice as old as the "love of a man for a maid." We insist upon certain refinements today which create the illusion of rationalization and seemingly acquit us of the charge of prejudice.

We solemnly tabulate an impressive array of counts and indict the banker as the provocateur of our current economic malaise. Credit is the requisite of consumption. Consumption is subnormal. Therefore business languishes. The banker supplies or denies the credit. In 1928 and 1929 he gave the stock market too much, caused inflation, excessive speculation, and collapse. Fear-stricken and contrite, he knots his purse strings today and refuses to grant credit. Behold our distress!

Look farther afield. A plague of bank failures besets the land. Across the water Germany pleads for a bankrupt's prerogatives. England repudiates her obligations.

At home the President comes to the aid with a succession of remedies all of which are addressed to the banker.

The moratorium is certainly a credit prescription; likewise the National Credit Corporation and the system of super mortgage banks. Even the Interstate Commerce Commission's decision is based partly on the plea of banks holding securities afflicted with vanishing values.

The banker has all the qualifications of a scapegoat. The case against him is plausible, and he is more or less inarticulate in his own defense.

The banker unquestionably has made numerous mistakes, which in many instances he has frankly confessed. But his liability to error does not distinguish him from the rest of us. If the banker was unduly optimistic in the ebullient stages of the boom he merely absorbed our own emotional exuberance. Action and interaction were reciprocal.

As to his responsibility today, note certain facts. No bank can fail except as its clients fail to repay their loans; it is the insolvency of the borrowers which results in the demise of the bankers. In the second place, no banking system can extend credit while depositors are withdrawing their funds; to do so would be not banking but legerdemain. Finally it should be noted that the relief measures of the government came only after the depression had been under way for almost two years, during which time non-banking stigmata of distress appeared in abundance.

Justice impels intercession in the banker's defense.

Another Victim

THE President of the United States has much in common with the bankers. The devil which the people are trying to exorcise has also been placed at his door. Both Hoover and his party now realize that the credit which they claimed for the prosperity of this country during the decade following the World War has been a boomerang. It has made them responsible also for the malady which now afflicts the land.

The President is peculiarly susceptible to the vicarious expiation of the nation's economic sins. As a public official he is open to personal attacks which, aimed at individuals in private life, would result within twenty-four hours in the first move for a libel suit. He is fair game for all gunners, but in addition, some of the supernatural prestige of the primitive medicine man and the early priestly king attaches to his position. In some manner that is not readily apparent he is presumed to have access to the fates which rule our economic destinies. If the manna of prosperity fails to descend from heaven the leader has lost favor with the powers above.

Millions of voters, many of them numbered among the business and intellectual leaders of the country, seem convinced that the Chief Executive is largely responsible for our difficulties and are determined to go to the polls at the next election to demand his hide and hair and head.

Here again the conviction is sustained by a structure of fallacious but plausible arguments. Although the spontaneous prosecuting attorneys who clamor for the defendant's head are all actuated by a single purpose it is strange to note the diametric conflict of the argument. Out of the confused chorus we hear that the tariff has been too high and also not high enough. The business man avers that taxes are already confiscatory, while the liberal is certain that they are too low. On the one hand we hear that our corporations are strangled by the restraints of our antitrust laws, while from the South and West comes the charge of licentious laxity in the suppression of monopoly.

The prominence of the defendant is itself an incitement to extravagant condemnation. It adds to the zest of the assault and enhances the satisfaction of the critic. It is human nature to take it out on the President, but it would be more to the point to concentrate on shortcomings which are closer to home.

United States,

Consolidated Balance Sheet for Stockholders

ASSETS

1. Plant and Property

The greatest supply of natural resources and industrial equipment of any nation in the world, conservatively valued at $350,000,000,000 and consisting of:

(a) Real estate, including farms, forests, mines, and buildings	$220,000,000,000.
(b) Railways and public utilities	44,000,000,000.
(c) Farm tools and manufacturing machinery	30,000,000,000.
(d) Raw materials and merchandise in process or in transit	45,000,000,000.
(e) Miscellaneous, including assets not enumerated elsewhere	11,000,000,000.

2. Gold Reserve

Holdings amounting to approximately $4,300,000,000—this sum constituting 36.9 per cent of all the monetary gold in existence.

Average per capita gold holdings in the United States: $35.02.

Average for the rest of the world: $3.92.

3. Sound Banking System

Approximately 2,000 banks, with liabilities of $2,000,000,000, failed during the depression years of 1930–31. That most of these banks were small, and that the country's banking system as a whole retains its integrity, is demonstrated by comparing these figures with the total of 25,000 banks in existence before the depression and their total resources of $70,000,000,000.

Percentage of bank failures, 1930–31, to total number of banks: 8.0

Percentage of liabilities of closed banks to total resources of all banks: 2.8

4. Deflated Stock Values

On Sept. 1, 1929, before the bull market collapsed, the average prices of 20 leading stocks in each division stood as follows: rails, 151¾; industrials, 75⅞; public utilities, 180¼.

On Sept. 1, 1931, the average prices were: rails, 69¾; industrials, 29⅛; public utilities, 48½.

A deflation of 54.1 per cent in rails, 61.5 per cent in industrials, and 73.9 per cent in public utilities has carried liquidation well below real values.

Simultaneously, brokers' loans have fallen from $6,801,000,000 to $869,000,000, a decline of 87.2 per cent, testifying in this degree to a transfer from marginal ownership in weak hands into outright ownership in strong hands.

5. Stabilization of Commodity Prices

During the two years of the depression, commodity prices over six-month periods have declined as follows:

First half of 1930: 11.2 per cent. Second half of 1930: 7.9 per cent.

First half of 1931: 11.3 per cent. Second half of 1931: 1.0 per cent.

The slowing down of the rate of decline, and the small movement recorded in the second half of 1931, point in the direction of stability.

(Continued on Page 22)

Incorporated

at the Turn of the New Year, 1932

LIABILITIES

1. Business Inertia

Recovery in 1932 must start from a low level. The following figures show average monthly production in 1929, 1930, and 1931, with 1929 rated at 100:

	1929	*1930*	*1931*
Automobile production	100.0	62.6	45.7
Pig iron production	100.0	73.6	46.2
Steel production	100.0	75.9	50.9
Bituminous coal production	100.0	90.8	81.4
Freight-car loadings	100.0	89.0	75.4

2. Gold Hoarding

Between Aug. 1 and Nov. 1, 1931, hoarding of currency amounted to more than $700,000,000. Later figures show a tendency of money to return to circulation, but the continued threat of hoarding constitutes as much of a drain on gold reserves (carried as an asset on the other side of the ledger) as actual export of metal to foreign countries.

3. The Unsolved Railway Problem

Motortruck competition and loss of traffic have created an unsolved problem. Freight revenues declined 18 per cent in 1931; passenger revenues, 23.3 per cent; express revenues, 24.2 per cent. Compared with the 5.75 per cent set by the Interstate Commerce Commission as a "fair return" on their property, the carriers earned 3.27 per cent in 1930 and 2.07 per cent in 1931.

With 900,000 holders of railway bonds, 850,000 stockholders, and 1,500,000 employees dependent upon railway wages, the difficulties of the transportation companies retards recovery.

4. Loss of Foreign Trade

Average monthly exports and imports for the three years, 1929 to 1931, stand as follows:

	1929	*1930*	*1931*
Exports	$453,900,000	$341,400,000	$316,100,000
Imports	399,900,000	253,200,000	179,100,000
Total foreign trade	853,800,000	594,600,000	495,200,000

Compared with 1929, exports have declined 30.3 per cent and imports 55.2 per cent.

Loss in export trade has been felt most keenly by staple products, such as wheat and cotton, which depend on foreign markets for the absorption of a surplus.

5. The Treasury Deficit

The federal government closed its last fiscal year with a deficit of $903,000,000. Halfway figures for the fiscal year which ends in June indicate receipts of $2,700,000,000 and outlays of $4,900,000,000—a likely deficit of $2,200,000,000.

Either this deficit must be met by higher taxes or by continued borrowing, which would tend to depress the value of government bonds.

(Continued on Page 22)

ASSETS (*Continued*)

6. Reduced Cost of Living

Index figures, as compiled by the Bureau of Labor Statistics:

	1929	*1931*	*% of Reduction*
Food	154.8	118.3	23.6
Clothing	161.3	146.0	9.5
Rent	153.7	142.0	7.6
Fuel and light	175.2	165.4	5.6
Housefurnishings	198.5	177.0	10.8
Miscellaneous	207.3	206.6	.3
All items	171.4	150.3	12.3

7. Intangible Assets

(a) Increased willingness on the public's part to face realities.
(b) Decision by the Federal Farm Board to abandon its unsuccessful efforts to "stabilize" prices by artificial methods.
(c) Labor conditions generally satisfactory; few serious strikes except in the textile and bituminous coal industries.
(d) Willingness of labor in many industries to cooperate in wage readjustments.
(e) Gain in business confidence resulting from the Nationalist victory at the polls in England.
(f) Less panic about Russia; collapse of the myth of Russian competition for foreign markets.
(g) First world conference to lower the cost of armaments scheduled for February.
(h) Increased goodwill for the U. S. abroad, resulting from the Hoover moratorium, the Laval and Grandi visits, and American cooperation with European nations.
(i) A President at his best in matters of federal economy and the organization of relief.

LIABILITIES (*Continued*)

6. Reduced Purchasing Power

Tending to offset "Reduced Cost of Living," carried on the opposite side of the ledger as an asset, is a reduction in purchasing power of many thousands of wage earners and security owners.

Manufacturing payrolls, as reported by the Bureau of Labor Statistics, show a decline of 42.7 per cent between 1929 and 1931.

Earnings of 1,432 leading corporations declined 28.4 per cent in 1930, and declined still further in 1931, with a resulting decline in dividends.

7. Miscellaneous Long-Term and Short-Term Liabilities

(a) A tariff which has overreached itself, provoked retaliation by foreign nations, and handicapped the recovery of foreign trade.
(b) The probability that a tariff on American goods will be established by the new British government.
(c) The Sherman Antitrust Law, prohibiting a constructive effort to deal with the problem of overproduction.
(d) "Frozen assets" in the hands of banks and investment trusts.
(e) Congress in session; both Houses so closely divided that insurgents control the balance of power.
(f) Election year in politics, with all candidates willing to make promises, frequently involving expenditures from the federal treasury.
(g) Continued unsettlement abroad, particularly in Latin America, Central Europe, and Manchuria.
(h) The overhanging problem of war debts and reparations, still unsolved.
(i) A President at his worst in dealing with the politicians who run Congress.

Real Estate Tries the Washington Cure

Exactly what President Hoover's central mortgage bank is, how it operates, what it may do for business, and the very real danger it runs of becoming, like other governmental boards, a political football

THE old continent has long been famous for the number and variety of resorts devoted to the cure of the afflicted. The freckles on the face of Huckleberry Finn never equaled the number of baths, springs, and resting places on the map of Europe. They constitute one of the imponderable items in the invisible balance of trade between the United States and the old world. Our aspirations for self-sufficiency have never led us to challenge this peculiar preëminence. One precious prize after another have we snatched from the soil of our Ursprung, but mellow ministration to the ailing still remains a transatlantic charm of the first order.

However, we speak of pre-depression days. Since the late spring of 1921 Washington has become the great Baden Baden of the American economic tundra. Every industry that quivers in the blasts of cyclical distress turns eyes to the Mecca of thaumagurtic therapeutics. Nor does it look in vain. In the summer of 1929 the farmers jumped the starter's gun by securing the passage of the Farm Marketing Act. Throughout 1930 and 1931 the capital has been deluged with pleas of every size and flavor to help sick aunts, ailing infants, baldheaded grandfathers, and flea-bitten pets.

The Washington treatment may be divided into four phases. During the first, which led up to the late spring of 1930, the Olympian response to supplicants was: "There is no depression. Its existence is a mere illusion, one of the eccentric emanations of your psyche. Go home and go to work." In the second stage the formula was: "We have almost recovered. You must not expect to feel as well as you did during 1928 and 1929. A certain amount of ache and pain is the normal lot of man." In the third stage distress is conceded by inference. The great physician and his many lesser satellites chime in unison: "The worst is over. We are on the road to recovery. This, that, and some more of that prove it." The patient (sinking rapidly) is a bit confused. He is told that he is not ill, that he must expect a certain amount of illness, and finally that he is recovering from an ailment which he was previously assured he did not have.

Political Homeopathy

Enter now the fourth stage. From the high temple of political priesthood comes the admission that the patient is critically ill, an admission that is followed at once by a succession of homeopathic prescriptions. In contrast to the type of political panacea which history would lead one to expect, these plans all reveal signs of painstaking prior preparation and consultation with the able counselors in the fields they cover. All of them, to a greater or lesser degree, are addressed to the solution of an emergency problem, though they contain elements of permanent value.

Virtue in Frankness

Thus Hoover's moratorium proposal had an immediate present value in that it relieved national debtors whose confession of insolvency might have precipitated us into an abyss of depression so severe as to provoke revolution. Its permanent value inheres in the tacit admission of a relationship between the penalty imposed upon Germany for losing the war and the funds borrowed by the Allies to enable them to gain their victory. It is true that it leaves Uncle Sam holding the bag while the Allies retain valuable territory and the other spoils of war. The country's position in this matter has had this fatal tactical weakness for some time, and the President's announcement had the great virtue of a frank admission.

The second notable gesture of the White House related to the National Credit Corporation. Its immediate value lies in the partial restoration of public confidence and the aid which it extends to sound banks unable to convert good assets into legal tender with which to pay hysterical depositors. Its greater effect comes from the dramatic emphasis which it has applied to the provincial and straitened legal code that limits the usefulness of the Federal Reserve System.

On October sixteenth the Interstate Commerce Commission handed down a decision known in the records as *Ex Parte 103, Fifteen Per Cent Case, 1931; 178 I. C. C., 539.* Of the four major treatments offered by the government in the present crisis this is probably the least valuable. It is heavily saturated with the flavor of exigent politics, embraces the principle of communism, taxes the industries of the North and East to help the weak lines of the South and West, and ignores completely the obvious forms of carrier relief—that is, an adjustment in wages and greater latitude in the abandonment of unprofitable branch lines. The I.C.C. reveals throughout an eye for favorable publicity and a strong bread-and-butter complex. The decision offers no aid at the point of present need, and in the long run it will prove gravely detrimental to the best interests of the railroads.

The fourth healing compound applied to the lacerated body of American business is addressed to

ASSETS (*Continued*)

6. Reduced Cost of Living

Index figures, as compiled by the Bureau of Labor Statistics:

	1929	*1931*	*% of Reduction*
Food	154.8	118.3	23.6
Clothing	161.3	146.0	9.5
Rent	153.7	142.0	7.6
Fuel and light	175.2	165.4	5.6
Housefurnishings	198.5	177.0	10.8
Miscellaneous	207.3	206.6	.3
All items	171.4	150.3	12.3

7. Intangible Assets

(a) Increased willingness on the public's part to face realities.
(b) Decision by the Federal Farm Board to abandon its unsuccessful efforts to "stabilize" prices by artificial methods.
(c) Labor conditions generally satisfactory; few serious strikes except in the textile and bituminous coal industries.
(d) Willingness of labor in many industries to cooperate in wage readjustments.
(e) Gain in business confidence resulting from the Nationalist victory at the polls in England.
(f) Less panic about Russia; collapse of the myth of Russian competition for foreign markets.
(g) First world conference to lower the cost of armaments scheduled for February.
(h) Increased goodwill for the U. S. abroad, resulting from the Hoover moratorium, the Laval and Grandi visits, and American cooperation with European nations.
(i) A President at his best in matters of federal economy and the organization of relief.

LIABILITIES (*Continued*)

6. Reduced Purchasing Power

Tending to offset "Reduced Cost of Living," carried on the opposite side of the ledger as an asset, is a reduction in purchasing power of many thousands of wage earners and security owners.

Manufacturing payrolls, as reported by the Bureau of Labor Statistics, show a decline of 42.7 per cent between 1929 and 1931.

Earnings of 1,432 leading corporations declined 28.4 per cent in 1930, and declined still further in 1931, with a resulting decline in dividends.

7. Miscellaneous Long-Term and Short-Term Liabilities

(a) A tariff which has overreached itself, provoked retaliation by foreign nations, and handicapped the recovery of foreign trade.
(b) The probability that a tariff on American goods will be established by the new British government.
(c) The Sherman Antitrust Law, prohibiting a constructive effort to deal with the problem of overproduction.
(d) "Frozen assets" in the hands of banks and investment trusts.
(e) Congress in session; both Houses so closely divided that insurgents control the balance of power.
(f) Election year in politics, with all candidates willing to make promises, frequently involving expenditures from the federal treasury.
(g) Continued unsettlement abroad, particularly in Latin America, Central Europe, and Manchuria.
(h) The overhanging problem of war debts and reparations, still unsolved.
(i) A President at his worst in dealing with the politicians who run Congress.

Real Estate Tries the Washington Cure

Exactly what President Hoover's central mortgage bank is, how it operates, what it may do for business, and the very real danger it runs of becoming, like other governmental boards, a political football

THE old continent has long been famous for the number and variety of resorts devoted to the cure of the afflicted. The freckles on the face of Huckleberry Finn never equaled the number of baths, springs, and resting places on the map of Europe. They constitute one of the imponderable items in the invisible balance of trade between the United States and the old world. Our aspirations for self-sufficiency have never led us to challenge this peculiar preëminence. One precious prize after another have we snatched from the soil of our Ursprung, but mellow ministration to the ailing still remains a transatlantic charm of the first order.

However, we speak of pre-depression days. Since the late spring of 1921 Washington has become the great Baden Baden of the American economic tundra. Every industry that quivers in the blasts of cyclical distress turns eyes to the Mecca of thaumagurtic therapeutics. Nor does it look in vain. In the summer of 1929 the farmers jumped the starter's gun by securing the passage of the Farm Marketing Act. Throughout 1930 and 1931 the capital has been deluged with pleas of every size and flavor to help sick aunts, ailing infants, baldheaded grandfathers, and flea-bitten pets.

The Washington treatment may be divided into four phases. During the first, which led up to the late spring of 1930, the Olympian response to supplicants was: "There is no depression. Its existence is a mere illusion, one of the eccentric emanations of your psyche. Go home and go to work." In the second stage the formula was: "We have almost recovered. You must not expect to feel as well as you did during 1928 and 1929. A certain amount of ache and pain is the normal lot of man." In the third stage distress is conceded by inference. The great physician and his many lesser satellites chime in unison: "The worst is over. We are on the road to recovery. This, that, and some more of that prove it." The patient (sinking rapidly) is a bit confused. He is told that he is not ill, that he must expect a certain amount of illness, and finally that he is recovering from an ailment which he was previously assured he did not have.

Political Homeopathy

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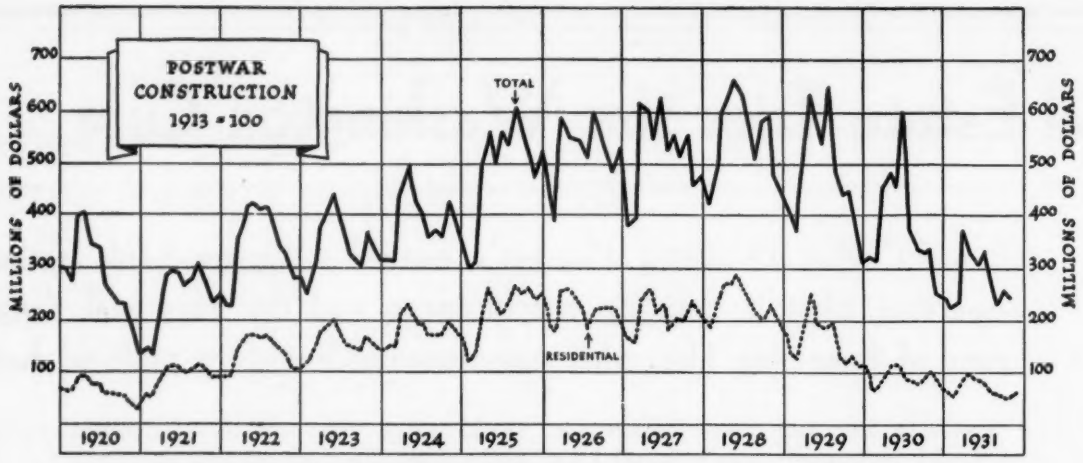


The upper line shows the course of total construction in 37 states, as compiled by the F. W. Dodge Corporation. The lower line represents residential building. This great industry reached its golden plateau in 1925 and remained there until 1929. At the beginning of that year it showed symptoms of a falling off which has continued unabated to the present. During the era of prosperity its annual direct product approached a value of $10,000,000,000. Tributary industries such as quarrying, lumbering, cement, paint, steel, etc., multiplied that total several fold. The decline is proportionately far greater in residential construction than in the total.

two related problems. The first deals with the decline in construction and the second with the inability of banks and fiduciary institutions to renew loans on real estate and absorb losses resulting from foreclosures. Before examining the President's plan for the creation of a central mortgage bank it is necessary to examine more carefully the nature of these two problems in order to appreciate the proportions of the task which the President hopes to accomplish.

Present Needs—And the Future

During the period 1925–1928 construction rated as a ten-billion-dollar industry and, on the basis of value of product as well as the number of men directly and indirectly employed, was easily the country's most important industry. Builders, workers, real-estate men, and the serried host of tributary industries such as cement, quarrying, lumbering, and the thousands of accessory producers will look back upon this period as the golden age of construction. Many years must pass before these idyllic days can return. The industry entered upon its decline at the close of 1928 and has been sinking uninterruptedly ever since. The chart shown above provides a graphic record of decadence and marks the greatest single adjustment which must be effected before the country can rise permanently from the slough of depression. The statement requires some elaboration.

The producers in every community may be divided roughly into two classes. The first consists of those who fill the needs of the hour—food, clothing, recreation, and the current incidentals of living. They produce goods whose uses are limited, whose existence is short-lived. Specifically, the group contains the farmer, the manufacturer of food products, the wholesale and retail distributor of these and other minor necessities of life.

The second group contains those who create for a longer period of time. They produce the permanent goods of life, articles which offer a use today and remain to serve again tomorrow and on into years to come. We may enumerate homes, office buildings, apartment houses, industrial plants, highways, bridges, and dams. These composite commodities all yield increments of value that extend indefinitely into the future.

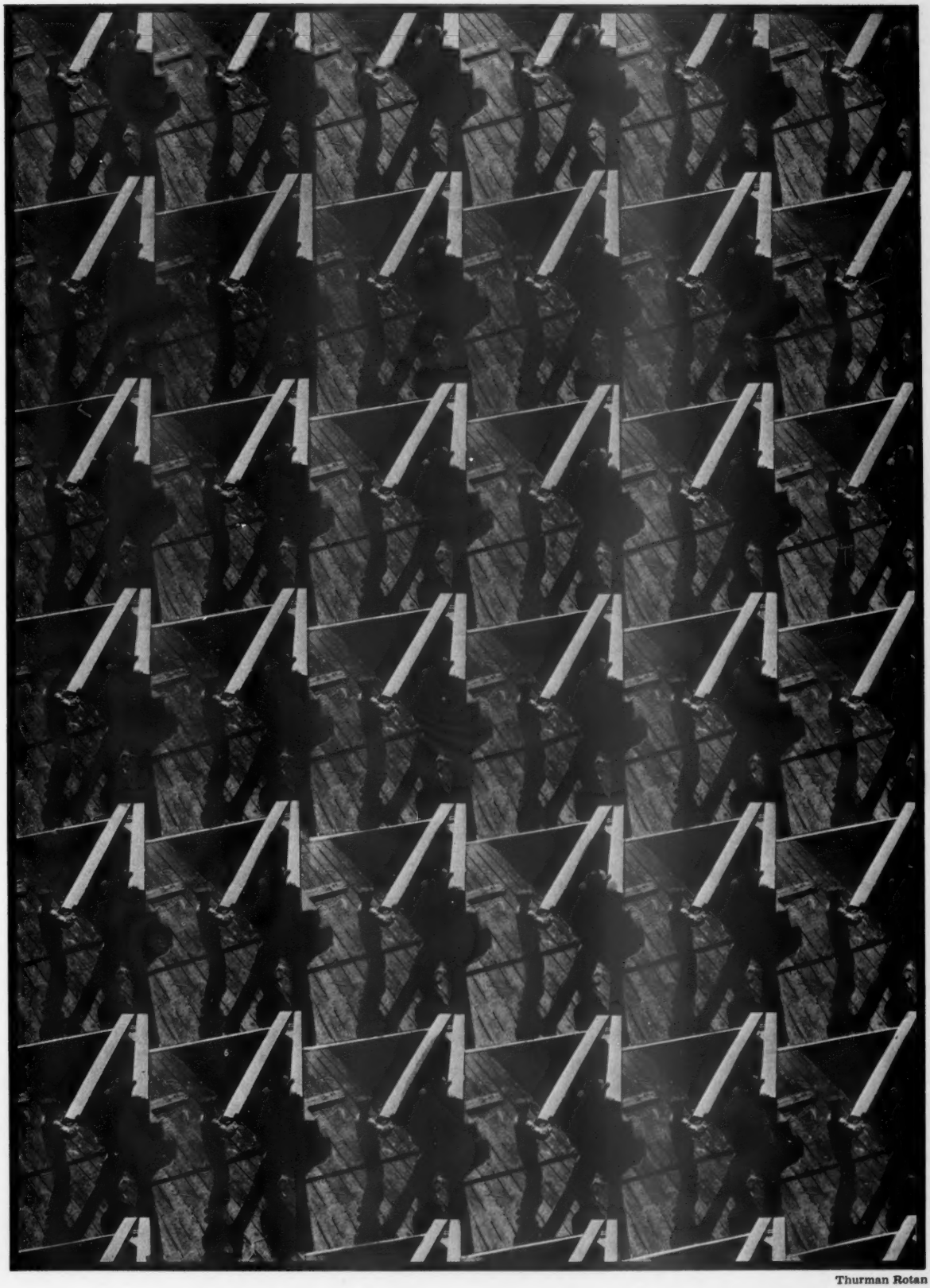
In a period of depression the sense of the future yields to the overpowering fear of the present. Unborn values are severely discounted, and the spirit of enterprise which leads men to take risks and make commitments for the future languishes. There may also be a surfeit of such capital goods. Another deterrent may be the failure of costs involved in the production of such goods to drop *pari passu* with the cost of other goods. Both factors contribute to the dismal state of construction at this time.

The point to be emphasized here in the light of the distinction established between things produced for current consumption and those produced for the future is that the depression is either the cause or the effect or both of a decline in the field of activity which addresses itself primarily to the production of permanent goods.

Our figures of consumption show that the sales of milk, butter, eggs, and meat have declined less than 5 per cent from the level of 1929. The trade volume of retail grocery stores, chains, mail-order houses, and the 535 department stores which report monthly to the Federal Reserve Board all show that sales, after allowance is made for the change in the purchasing power of the dollar, compare well with similar figures for 1929. In contrast we find lumbering off 60 per cent, steel off 50 per cent, and copper, bricks, stone, sand, and cement with declines of similar proportions.

The exhortatory slogan for lifting the country out of depression should be "Build now" rather than "Buy now"—assuming, of course, that the productive factors which will profit from such revival have the flexibility and intelligence to make the appeal attractive to the investor.

It is this matter of cost and price which may limit the effectiveness of the President's efforts to encourage home building through providing better credit



Thurman Rotan

The big-job contractor has made the slogan attractive by effecting substantial economies through labor-saving devices and close bargaining for materials; it behooves those who specialize in residential construction to fall into line.

"Build Now!"

facilities. Bricklayers and stone masons are the prima donnas of labor. They constitute a formidable and forbidding phase of the construction problem. Their extraordinary solicitude for their own health has led them to restrict output, reduce the number of working hours during the week, and adopt policies of exclusion from their unions which have had the effect of limiting the number of workers. As a result construction costs have lost contact with the world of normal prices.

Down in Amarillo, Texas, in the late summer, wheat was selling at the station at 25 cents a bushel. At the same time the bricklayers of this community were demanding $1.12 per hour. Mind, now, that in every community we must live by an exchange of services or products. The Texan farmer finds that he must raise and sell 36 bushels of wheat before he will have the gross means to employ a bricklayer for a single day. The inequity of the exchange is further emphasized by the fact that the return of the blue-blooded builder is net, whereas the farmer must pay for seed, fertilizer, taxation, power, and other items before he can pay himself. This may have something to do with the sad state of construction.

Builders Must Coöperate

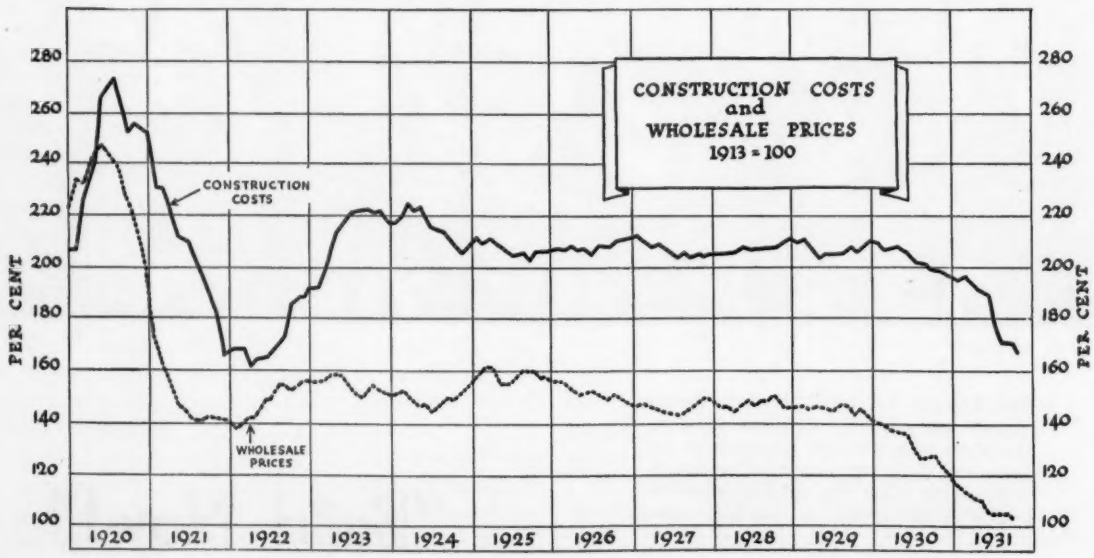
The President's plan is directed particularly to the encouragement of home construction; and it is precisely here that it encounters the greatest reluctance on the part of the industry to make those adjustments which would facilitate his task. The big builders, in active competition with one another for contracts involving major projects, have effected economies by the introduction of labor-saving devices, strong bargaining for materials, and reduced employment of highly skilled labor—all of which has greatly increased the purchasing power of the construction dollar expended for such work. The figures reveal the effect of this. Public works and utility jobs, all of the heavy type, have declined far less from the high level of 1925–1928 period than has residential construction.

The second major objective of the central mortgage bank is to relieve the credit agencies whose assets consist of claims against real estate. These institutions fall into four classes. In the first group we find the savings and commercial banks, whose investment in real-estate amounts to approximately ten billion dollars. Building and Loan Associations have a combined stake in the country's homes equal to nine billion dollars. Life-insurance companies carry eight billion dollars of loans on real estate, while the federal land banks and the joint-stock land banks bring up the rear with another two billion, making a grand aggregate of twenty-nine billion dollars. Miscellaneous commitments probably bring this total up to thirty-five billion dollars in the form of direct loans. It is impossible to make an estimate of the indirect loans made where bonds are sold and the proceeds devoted to the construction of plants and buildings. This is largely the destination of billions of dollars raised from the sale of railroad, utility, and real-estate bonds, and it might easily double the previous estimate of outstanding obligations whose ultimate validity depends upon the value of the property against which they constitute a claim. If magnitude be a claim to merit, then the President's plan should be canonized. It is easy to understand the flood of congratulatory messages which greeted its announcement.

What is the formula? How is it expected to operate? What is the price? Who receives the benefits and who pays the bills?

The formula runs along a well-beaten path and follows in principal outline the organization of the Federal Reserve, the Federal Land Bank, and the Intermediate Credit Bank systems. This means: first, the appointment of a supervisory body in Wash-

The chart compares the course of construction costs and of wholesale prices in the decade since the World War. Stated in another way, it shows the changes in the purchasing power of the construction dollar as compared with the dollar expended for goods bought at wholesale. In both cases the index is based on a 1913 par. During the period 1923–29 the average home builder had to spend $210 to obtain the amount of construction which $100 would have purchased in 1913. On the other hand, if he spent his money for wholesale commodities he had to part with only $152 in order to get the same quantity which $100 would have bought in 1913.



ington with the advice and consent of the "most august legislative body on earth," the United States Senate; second, the organization of twelve district banks whose capital will be subscribed by institutions within the district which expect to use the facilities of the mortgage bank. Any deficiency in capital, initially set at from five to thirty million dollars, will be subscribed by Uncle Sam, to be repaid subsequently by banking clients as business grows. The mortgage bank will have no direct contacts with home owners but will confine its lending to institutions which in turn lend to the individual. Let us anticipate one of these banks in order to see the proposal in action.

How the Banks Will Help

A group of building and loan associations, insurance companies, savings banks, commercial banks, and joint-stock land banks subscribe thirty million dollars to the capital of the district mortgage bank. The Randal Savings Bank, one of the subscribers, finds itself in need of liquid funds due to withdrawals or good applications for new loans. It looks over its list of mortgages and finds one of $15,000 against a home which has just been completed at a cost of $30,000. (This is the largest claim which the mortgage bank will accept as collateral. Furthermore, it must not exceed 50 per cent of the value of the property.) On the security of this mortgage the bank will lend the savings institution one half the unpaid portion of the loan, which in this case is still $15,000. The savings bank can therefore obtain a maximum of $7,500.

If it lends the latter sum to a new home owner, it may take his mortgage for $7,500 to the central bank and secure $3,750 and thus continue a diminishing pyramid of credit until practical zero is reached. Theoretically, this would enable a bank which made an original loan on a $2,000 mortgage to raise $2,025, thus substantially increasing its own lending power.

What protection does the central mortgage bank have? First, the real estate on which the mortage is a first claim; according to the conditions this must be worth four times the amount of the loan made by the central mortgage bank. If this be inadequate, the capital and surplus resources of the borrowing bank must step into the void. Finally, if the first two defenses fail, then the mortgage discount bank must resort to its own capital funds. As an added precaution the central mortgage bank will have its own appraisers place a value upon the property which constitutes the first security of the loan.

That "Political Complexion"

The next problem is the source of the funds to be used in making these loans to local institutions. The capital of the central bank is intended chiefly as a margin of safety in the event of losses. The credit to be loaned must be obtained elsewhere. As mortgages are brought to the discount bank they are deposited with a registrar. Let us assume that they total $10,000,000 for a given period of thirty days. The mortgage bank then sells to the public $5,000,000 of bonds which are secured by the $10,000,000 of mortgages held by the registrar and secured in turn by $20,000,000 of real estate. The proceeds of this sale are then loaned to the local building and loan associations, savings banks, insurance companies, and other institutions whose applications for funds have been checked and approved.

In order to prevent undue expansion in relation to the margin of protection provided by the central bank's capital, the ratio of bonds sold to capital cannot exceed twelve. Thus the bank with a capital of $30,000,000 can make loans aggregating $390,000,000.

The plan is sound in theory. If the system can be protected against the abuses which have appeared in other instances where the state has injected itself into a private business, it may prove of value in stimulating new construction and relieving hard-pressed lending agencies. This statement leaves untouched the greater problem of the desirability of hampering the curative and automatic processes of economics in a community of free enterprise. The plan will not result in inflation and is merely an intelligent and effective method of bringing supply and demand for capital together.

The dangers of the plan have no relation to the possibility of inflation. In the first place we have the fact that an involved banking system is to be born in a political manger. If our experience with the Federal Reserve Board, the Federal Farm Loan Board, and the Interstate Commerce Commission has any significance, then we must expect the supervisory body appointed by the President and Senate to have a political complexion. Some members will be appointed for no other reason than the discharge of a political debt.

Federal Bib and Bottle

If Uncle Sam is to contribute any part of the original capital the Senate will insist on an indirect voice in the appointment of the administrative personnel of the twelve banks. The consequence of this exalted guidance in the case of our federal land banks has not been happy. In one instance a very good Democrat was appointed as governor of a federal land bank with no visible qualification other than his experience as the deputy warden of a federal penitentiary. It was alleged that the propinquity of political and blood relationships thereafter determined the fate of applications for loans. That particular bank is now in distress and may be one of the institutions which will be helped by the new central mortgage bank.

Although our bureaucratic high priests in the capital insist that they are as free from political pressure as St. Peter, the student who has had occasion to examine the ramifications of remote federal control becomes a trifle weary of such reiterations of political innocence. Is it reasonable to suppose that the more articulate half of Congress will be able to forget that it is a political body long enough to permit this system of mortgage banks to be organized on a sound business basis?

Is it desirable for the state to provide bib and bottle to a part of the construction industry which has been unable or unwilling to make those adjustments necessary to align it with a lower price level? Is the condition of our private mortgage-lending institutions sufficiently grave to warrant the further usurpation of a business function by the federal government?

Vox Pop: Can it Bring Repeal?

Alone with a conscience in a voting booth, would the country be wet or dry? The drys shout, "Dry!" and the wets, "Wet!" Counting noses in a referendum would be useless; but the Constitution itself shows the way to settle the problem of America's thirst

WHENEVER the forces of repeal become too insistent in their demands for a national referendum on the Eighteenth Amendment, it is the pleasant custom of the drys to annihilate their opponents with the big Indian adverb, "How?" Since our national government possesses, the prohibitionists assert, neither the authority to call nor the machinery for holding such a referendum, there is apparently no answer to the question. So the wets go on contending that if the voice of the people only were made audible it would roar "Down with Prohibition," while the drys obliquely remark that they do not hear anything at all.

There is, however, a way by which the now politically inarticulate *vox populi* may be recorded, and this by a device of the Constitution and not of Science.

By vote of two thirds of a quorum of both houses, Congress may order that a convention, composed of delegates chosen by the people, be held in each state to act upon any specific proposal to amend the Constitution. The people thus may give voice to their desire with immediate effect. If three fourths of their assemblies reject the Eighteenth Amendment it shall be stricken from the Constitution; if less than that number, it shall remain.

This is the convention mode of amending the Constitution, celebrated in New Jersey by Judge Clark and espoused by several members of the Wickersham Commission. It was utilized by the states in adopting the Constitution and embodied in Article Five of that document, where it has since lain dormant.

Ratification of the Constitution was accomplished by submitting it, at the suggestion of the Federal Convention, "to a Convention of Delegates, chosen in each state by the People thereof, *under the Recommendation of its Legislature.*" Suitable to the exigencies of 1790, such procedure if utilized today might at the outset foreclose the possibility of obtaining a fair plebiscite.

The Old Acreage Basis

In the eighteenth century the right to vote was distinctly limited in this country by property qualifications. Representation and election districts were based upon acreage rather than density of population, as was appropriate to a predominantly agricultural society. The popular will of the Colonial American was thus adequately expressed in the ratification of the Constitution.

Today conditions are almost reversed. Suffrage disqualifications have all but disappeared. Our pristine agrarian society has been displaced by an industrial democracy, and our population has rushed madly to the cities. Yet our state legislatures still stand upon their eighteenth-century footing; they remain agrestic bodies because the electorate continues to be distributed upon an acreage basis.

Manifestly, if the amendatory conventions are placed under the thumbs of our state legislators, rural sentiment will be reflected with arid accuracy while the moist cries of the cities may be choked away to a whisper. One can visualize junto conventions of disgruntled urbanites and, by a stretch, modern Whisky Rebellions.

Achieving a Fair Plebiscite

The ancient Constitutional precedent is not necessarily binding; it serves, on the other hand, only as a warning against present-day error. To obtain an adequate and fair audition of the *vox populi* on prohibition, federal legislation controlling the electoral basis of the conventions will be required. It will be necessary to district the states with respect to population for the purpose of electing delegates to the amendatory conventions. The 1930 federal census provides an accurate basis for reapportionment, which is, indeed, the original purpose for which Congress ordered the decennial census established.

There is some doubt that Congress has authority to decree the districting of the states; the Constitution is silent on the score. But the Supreme Court has intimated that proposal and ratification of amendments are "succeeding steps in a single endeavor," and it is the opinion of some lawyers that Congress may do what is necessary to achieve a fair plebiscite.

In the last analysis, the problem of articulating the voice of the people on prohibition is one that calls for statecraft. Ascertainment of the precise will of a multitude is an impossibility; minorities seem always to be vocal, majorities dumb. Ignorance, apathy, even the weather will silence many voices, and money purchase others. The convention mode of amendment, however, appears to offer the closest approximation of the will of the majority which must, in the end, be law.

For, "If a fair representation of the people be not secured," said Edmund Randolph from the floor of the Federal Convention, "the injustice of the government will shake it to its foundations."

Industry's Silent Partners

So diffused have security holdings become that the voice of ownership is dangerously ineffective. As a group individual and large corporate investors alike may become articulate and powerful. In the railroad field such a group has already made an important beginning

THE IDEA that mass ownership of American industry is not an unmixed blessing is beginning to cause concern in an ever widening circle of big business. In the past ten years it has been hailed far and wide as a panacea for many of the ancient flaws of capitalism. Chiefly, it diverted part of the flow of wealth from the hands of the few into those of the many, since distribution of securities meant distribution of profits. But in addition there were benefits of a good-will and market-building nature equally or more important. A wholly new consumer attitude toward business was the result.

Even while the Coolidge boom was still in full swing, however, it began to be evident that a problem unique in economic history was developing, that the absentee landlord was coming into being in an entirely new form. Where previously the ill effect of his absence was felt by his customers, the peril now was to the owner himself, his managers, and his business. Multiplied by millions and magnified in scale, he was also so far from the center of things that he could not be located readily even by his own agents.

Every managing executive of a really big national corporation with many stockholders has been aware of owner indifference for several years. So long as they get dividends regularly, owners pay little or no attention even to functions reserved to them by law. A battle for control may stir up the newspapers, but bids for proxies leave stockholders cold.

The group problem thus created has made itself manifest by happenings outside of business; and the increasing number of direct attacks on the entire industrial system, or on large units thereof, point to a fundamental weakness in that system for which management alone can supply no adequate remedy.

Absentee Owners

Several questions arise. What are the real owners of American industry going to do about matters beyond the power and authority of those intrusted with the management of their properties? Does not owner indifference to such matters constitute a menace from within far more dangerous than any attack from without? Are these attacks inevitable results of the undoubted failures of the machine age to serve the public interest in all particulars? Are the failures the consequence of a lack of owner interest, and if the owner can be induced to defend his property will not that have the effect of eliminating the failures and making the whole machine more efficient?

Assuming that the answer to the last question is in the affirmative, how may such a defense be organized? If management is to continue the progress it has already made toward scientific stature, how is it to be guaranteed that freedom of action essential to professional and creative work? Who is to define the limits and to regulate the functioning of that freedom, so that all interests will be fully protected and equitably served? The holding company and the investment trust in various forms have been tried, but they add diffusion to distribution. Some other method must be found.

Capital Must Organize

A new movement in the railway and utility fields in this direction is therefore of interest not only to business men in general but to all security owners, to holders of insurance policies, and to depositors in savings banks. In these fields the problem was recognized and its dangers were noted, in part at least, nearly fifteen years ago. At that time—in May of 1917, to be exact—there was formed the National Association of Owners of Railroad Securities. Its members then included insurance companies, commercial and savings banks, trust companies, universities, religious and charitable organizations, estates, other institutional investors, and some individuals of considerable means.

Somewhat over a year ago this organization launched a program of expansion as to both membership and policy which now for the first time promises to furnish a platform on which the four great groups of the modern economic order may find a common meeting ground. These groups are capital, management, labor, and the public. The organization back of the new program is not as yet complete, yet already it has succeeded in revealing an identity of interest among these groups in any number of instances where previously there had been conflict, or the threat of it. It has even shown that as to many of their interests the members of these groups are not four, but one.

A new approach and not any basic change in policy has made this showing possible. The primary purpose of the Association still is to give investors a voice in the formulation of policies affecting their holdings,

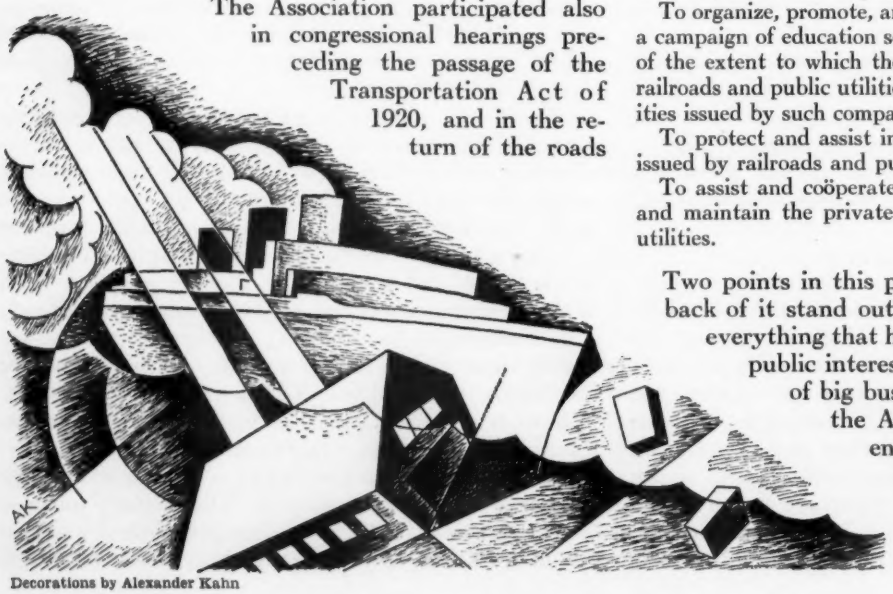
and to resist the encroachment of other economic doctrines on the American principle of private ownership. It is specifically opposed to governmental competition in business. But now, instead of displaying this opposition by a contest for corporate rights in the legislative and administrative arenas, it has moved back to the foundation of individual rights and group interests. Moreover, it is proceeding by inquiry rather than by assertion.

Working for Harmony

By inquiry—by searching for points of agreement and common interest instead of concentrating on conflict—the Association has contributed largely to a new understanding between railway executives and organized labor. It is too early as yet to describe in detail its work in this connection, but it may be said that conferences arranged under its auspices have been in progress now for several months between these two groups. At these meetings management studies the problems of labor: wages, continuity of employment, hours of work. Labor in turn studies the problems of management: public relations, rates, costs, and the raising of capital.

Milton W. Harrison, who became president of the Security Owners Association on the resignation of the late S. Davies Warfield in 1924, recognized the opportunity and the need for just this sort of coöperative service by owners of industry some years ago. In previous service as an executive of the Association he had observed that groups operating honestly in the public interest from opposing points of view frequently lost sight of this joint interest in their concentration on a conflict which, more often than not, concerned minor details. To replace this conflict with harmony at the source, therefore, he and his associates determined to lay the whole problem before security owners.

Previously the Association had established a sound record of service to the railways and through them to the public. When the roads were taken over by the government shortly after its formation, a committee representing security owners took part in negotiating the contract. The Association participated also in congressional hearings preceding the passage of the Transportation Act of 1920, and in the return of the roads to private operation. Through a non-profit-making National Railway Service Corporation, a subsidiary, it issued nearly thirty million dollars in equipment certificates from the revolving fund established by Congress, to restore the railways to good condition. Its board of economics and engineering, formed in 1921, has contributed notably to the coördination of railway facilities and the improvement of service.



Decorations by Alexander Kahn

A coöperating council of individual investors was chosen as the means of carrying out the extended program. In 1927 the Association added the utility investment field to its sphere of activities, since problems of the power and light corporations are similar to those of the railways. At this writing its members hold directly more than sixteen billions of dollars in the securities of these two groups, and the rapid growth of the coöperating council is increasing this representation month by month.

As a preliminary step in the formation of the council a system of state vice-presidents was established. Names of the men chosen for these posts were furnished after investigation by about thirty organizations throughout the country. A prospect list of ten thousand names was thus obtained, and later this was increased to twenty thousand as the council began to take form. From these lists the council has set up an active membership of more than two thousand five hundred individuals, located in 427 of the 433 congressional districts of the country.

For the Common Weal

All these members, it goes without saying, are investors, but not all of them by any means are rich men. They were chosen less for their holdings than for their local reputations as harmonizers of conflicting opinion. Men of violent views and prejudices, of many antagonisms, were avoided. A willingness to accord a fair hearing to any opposition view was a prerequisite of membership, and in order to interest this type of individual the Association set forth as its purposes the following:

To provide a method for collective action by owners of railroad and public-utility securities for the maintenance of the credit of the corporations issuing such securities.

To organize, promote, and carry out, in the public interest, a campaign of education so that the people may be informed of the extent to which they are interested in the welfare of railroads and public utilities and in the integrity of the securities issued by such companies.

To protect and assist in stabilizing the value of securities issued by railroads and public utilities.

To assist and coöperate in the regulation but to preserve and maintain the private ownership of railroad and public utilities.

Two points in this program and in the conception back of it stand out in sharp contrast to virtually everything that has been done heretofore to stir public interest in the problems of any form of big business. The first is that while the Association of Security Owners endeavors to coöperate and work in harmony with managements, it represents directly only those who own the securities.

It is not, in other words, committed in advance to any single policy, and it may be committed after the fact only as the policy may be shown to be really in the interest of all concerned.

The second point is that the owners of big business in these two important fields have voluntarily abandoned or refrained from entering the one-sided field of propaganda. In according a fair hearing in the halls of investment—which is money power—to the avowed advocates of government ownership or of any other change in the present American system, they have met the challenge of the liberals. Thereby they have rid themselves of the great limiting factor in nearly everything that has been said or done up to this time by big business in its own defense. That limitation—well based or otherwise—has been the charge that business has been selfish and intolerant, has put its own interests ahead of all others, and has refused to face facts.

The president of the Security Owners Association and his associates saw clearly at the outset that it was a mistake for big business to concentrate its attention on points of conflict with its opponents. What they have set out to do now, through the coöperating council, is to establish national visibility of the points of agreement. With harmony as a starting point, it is their conviction that the essential interrelation of all industry and the interdependence thereon of all individuals will become increasingly clear.

"Any group that is agreed on what it wants to do is more effective than one which wastes its time in argument," Mr. Harrison observes. "Men may be as far apart as the two poles in their ideas of what we should do with our railways, our electric utilities—our whole industrial and business machine, in fact. But to argue about details is only to interfere with the service we can get out of these facilities."

All in the Same Boat

"All men can agree that service to the public is the only excuse for any business. We are all in the same boat. The Security Owners Association begins with the admission that the rights of its members are subordinate to this greater common right of public service. Granting this, it proceeds on the well-established American principle that the direct and simple way to guarantee this common right is through guaranties—limited and regulated according to law but protected by the full power of the people—to the individual, so that he may enjoy the fruits of his savings. For only through such guaranties will he be able to mass more savings to furnish the capital for our industrial enterprises."

Management, it need hardly be said, has not been slow to grasp the value to it of the tremendous support thus being brought into a single group. The very fact that no attempt has been made to utilize this very real ownership as a means of compulsion has increased its power. In the opinion of Mr. Harrison and his associates, the specific contributions to increased functional and social efficiency which the Association has been able to make in the past are insignificant in comparison with what may be expected within the next few years.

"No one," he points out, "can assume completely the attitude nor grasp the viewpoint of the owners of any property toward his holdings except that owner. No one can perform that service for labor or for management. Obviously, if we are to have a harmonious and coöperative program for the conduct of American industry, it must be established by these groups and not by persons assuming to represent them.

"Heretofore even in the most efficient industries there has been a certain amount of pulling at cross purposes, and this has been accentuated by the widespread distribution of securities and the growing distance between ownership and management. It is a certainty that this distribution is going to increase, and that as it does the interrelation of industry will grow, as well as the interdependence of all members of our population. It follows therefore that if we do not have increasingly efficient group action in the common interest the currents of cross purposes eventually will pull our whole machine apart."

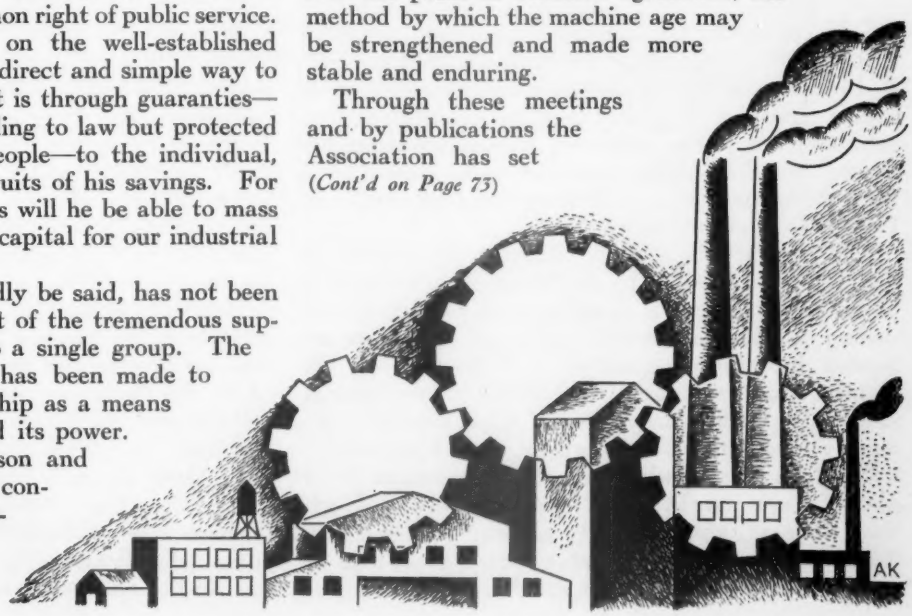
The Menace from Within

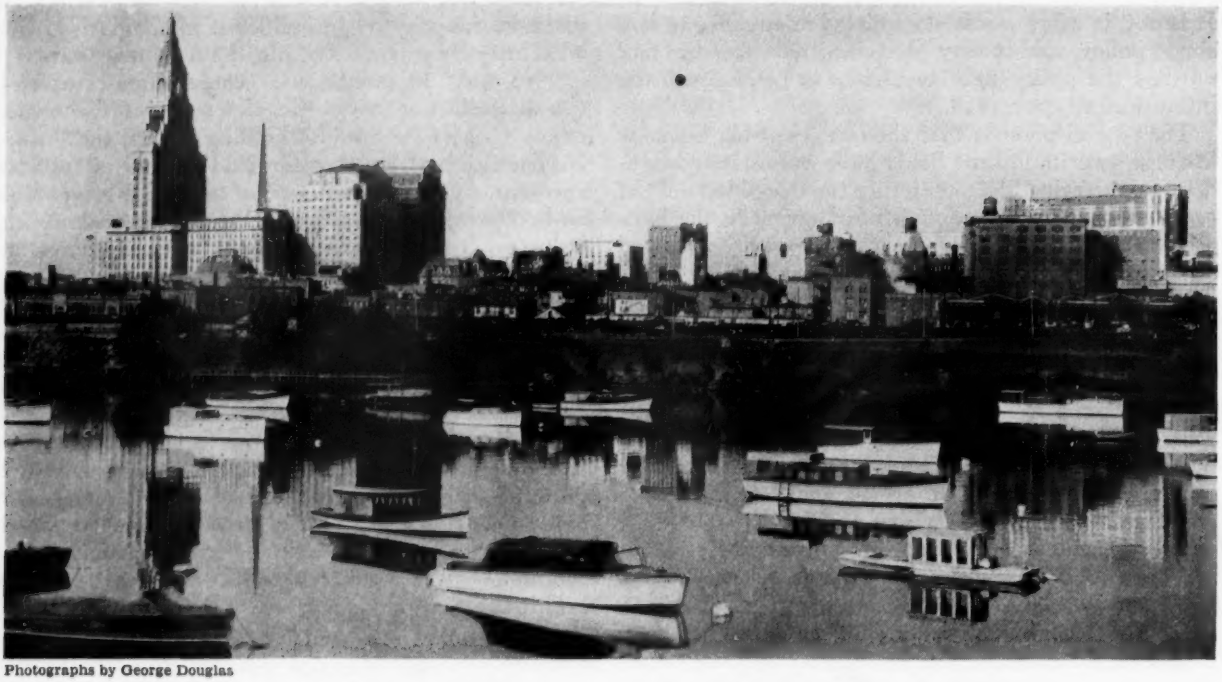
"The only real menace to American industry, in other words, lies within itself. Attacks from the outside can do no great amount of harm to the institution of private property, if the common stake in that institution is thoroughly understood and the public interest is protected at every turn. The presentation of the facts will be sufficient, in my opinion, to lessen both the number and the violence of these attacks. The investor, which in this country means everybody, will see to that."

For the purpose of making this presentation of facts the Association started in New York City late last winter a series of problem discussion meetings. Similar meetings will be held this winter on a nation-wide basis. In every instance it is insisting on having present as a speaker a recognized proponent of the opposition to private ownership. The effort, however, is not merely to entertain by debate, but to find the point of common agreement, the method by which the machine age may be strengthened and made more stable and enduring.

Through these meetings and by publications the Association has set

(*Cont'd on Page 73*)





Photographs by George Douglas

Looking across the Connecticut River toward the Hartford skyline. The city, founded in 1636 by the Rev. Thomas Hooker and a hundred followers, became known as the "birthplace of American democracy" because here the New World's first autonomous government was established. The Travelers Insurance Co. building dominates the business district.

Policy Town

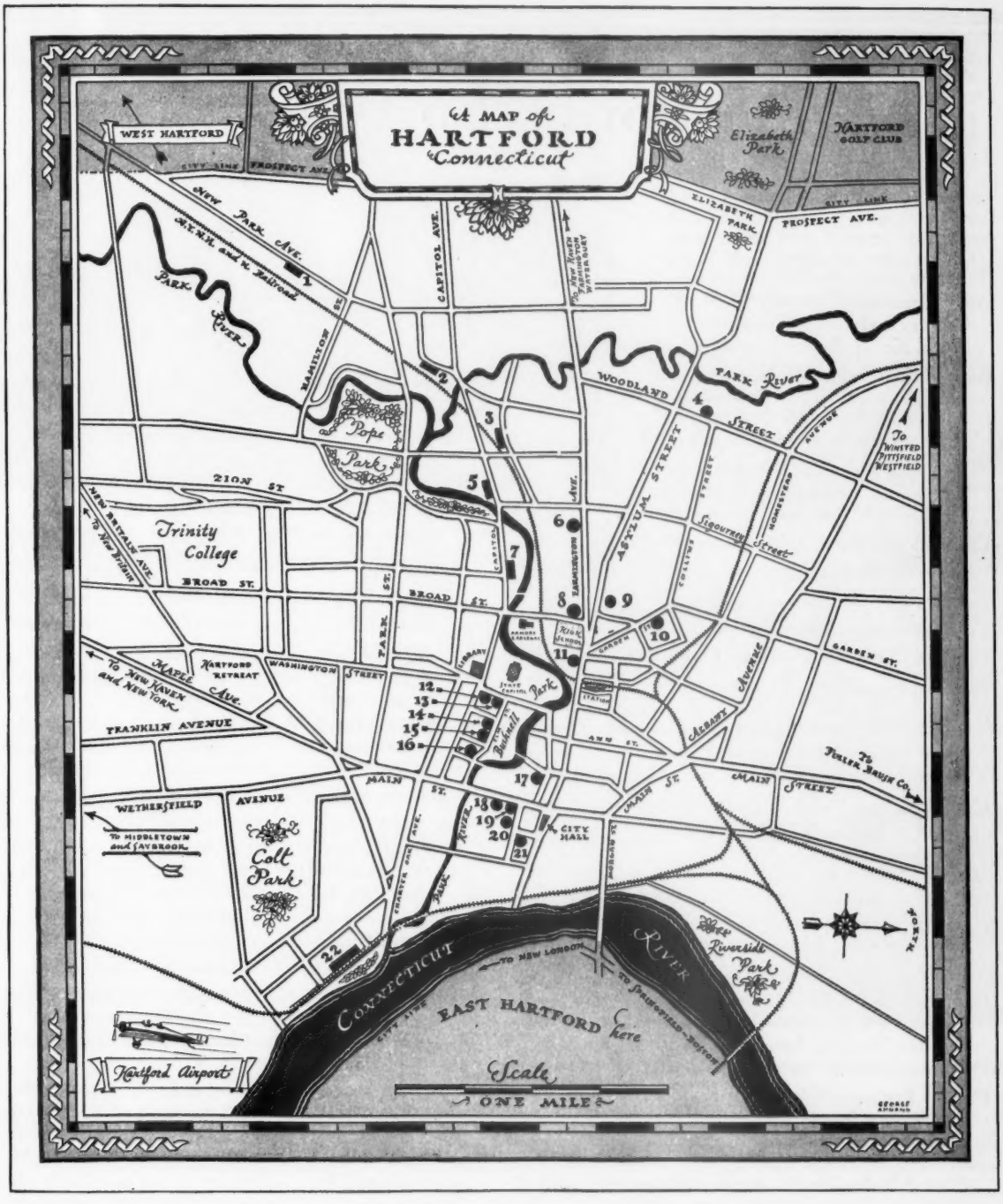
Once it was the Hartford Wits, now it's the insurance companies plus Pratt & Whitney, Underwood, Royal, Colt, and Fuller Brush that give this conservative, prosperous New England town its place in the sun

IT IS the gentle but generally undisputed boast of Hartford, Conn., (pop. 164,072) that she is "The Insurance City of America." New York, of course, contains a greater number of underwriting concerns, but it has outgrown its amateur standing among American cities; insurance is of New York's life a thing apart, whereas it is the brighter portion of Hartford's whole existence.

The Connecticut capital has been immeasurably enriched and beautified by serving as the headquarters of forty-five insurance companies whose two billion dollars of assets and twenty thousand employees are housed in thirteen splendid castles. One of the cleanest and most compressible of industries—making, like banks, much money without noise, smoke, or indignity—insurance is an ornament to its home city.

Hartford lies inland but on the Connecticut River and, of course, on the New York, New Haven & Hartford Railroad, almost exactly midway between New York and Boston. Without premier advantage of rail transportation, harborage, or natural resources (factors accounting for the greatness of so many cities) it has grown up principally by its insurance enterprises. For these it was unnecessary to assemble any raw materials. They were the qualities rooted in the Puritan past of the Connecticut River towns: faith, thrift, ingenuity, and a love of accuracy, whether of statement, statistic, or of handicraft. This trait of precision also has manifested itself in the metal trades that give to Hartford an industrial significance not inconsistent with its eminence in insurance.

Hartford industries, however, being somewhat eclipsed at the moment, the true and stable value of insurance to the city is now more apparent than ever. (*Vide* the Governor Street Cwiklas, page 38.) Despite depression, the Hartford underwriting companies continue to provide a steady payroll of more than $25,000,000 annually for their employees and dependents. They have met the inevitable decline in their business, almost unanimously, without resort to wage cuts or dismissals. Their policy has been to hire no one, to fire no one, and to replace no one who quits.



Key to the City

1. Royal Typewriter Company
2. Gray Telephone Pay Station Company
3. Arrow Electric Company
4. Aetna Insurance Company (printing plant)
5. Underwood Elliott-Fisher Company
6. Aetna Life Insurance Company
7. Pratt & Whitney Company
8. Rossia Insurance Company of America (building also houses Fire Reassurance Company, First Reinsurance Company, and Metropolitan Fire Insurance Company)
9. Hartford Fire Insurance Company
10. Connecticut Mutual Life Insurance Company
11. *Caledonian Insurance Company of Scotland
12. London & Lancashire Insurance Company, Ltd.
13. Phoenix Insurance Company
14. Phoenix Mutual Life Insurance Company
15. Scottish Union & National Insurance Company
16. Connecticut General Life Insurance Company
17. National Fire Insurance Company
18. Aetna Insurance Company
19. *Hartford County Mutual Fire Insurance Company
20. Travelers Insurance Company
21. Hartford Steam Boiler Inspection & Insurance Company
22. Colt's Patent Fire Arms Company

Rented quarters

¶ Fuller Brush Company is on Windsor Avenue, a continuation of Main Street (see arrow near right edge of map). The Pratt & Whitney Aircraft Company and the Chance Vought Corporation (both subsidiaries of United Aircraft & Transportation Company) are in East Hartford.

Hartford's Forty-Five

	Total Admitted Assets	Total Premium Income 1930	Cash Dividends Paid to Stockholders 1930
Aetna Insurance Company—F	$ 56,926,657.55	$ 23,867,922.89	$ 1,500,000.00
Century Indemnity Company—C	6,891,049.45	6,290,327.40	.....
World Fire & Marine Insurance Company—F	4,215,459.44	1,537,516.62	.....
Aetna Life Insurance Company—L, C	424,776,175.86	106,916,898.67	1,800,000.00
Aetna Casualty & Surety Company—C	33,230,184.00	16,758,749.58	780,000.00
Automobile Insurance Company—F	21,345,687.82	7,302,985.27	500,000.00
Standard Fire Insurance Company—F	3,962,799.45	1,446,176.37	80,000.00
*Caledonian Insurance Company of Scotland—F	4,272,410.00	2,388,978.00	(b)
Caledonian American Insurance Company—F	1,617,393.00	308,374.00	20,000.00
*Netherlands Insurance Company—F	1,803,292.00	836,438.00	(b)
Connecticut General Life Insurance Company—L, C	143,176,806.09	32,398,151.48	350,000.00
Connecticut Mutual Life Insurance Company—L	196,176,022.26	30,490,586.03	†6,270,672.00
Fire Reassurance Company of New York—F	4,066,087.00	3,350,588.00	64,000.00
First Reinsurance Company—C	3,406,589.27	1,614,703.92	100,000.00
Hartford County Mutual Fire Insurance Company—F	3,600,065.88	194,067.06	.....
Hartford Fire Insurance Company—F	93,710,884.41	38,564,877.87	2,780,000.00
Citizens Insurance Company—F	2,948,579.32	543,626.17	.....
Hartford Accident & Indemnity Company—C	44,507,766.32	30,029,748.02	580,000.00
Hartford Live Stock Insurance Company—C	1,599,524.01	612,665.17	25,000.00
New York Underwriters Insurance Company—F	7,225,825.04	1,281,977.16	.....
Hartford Steam Boiler Inspection & Insurance Co.—C	20,588,392.60	5,423,275.98	540,000.00
*London & Lancashire Insurance Company, Ltd.—F	8,604,790.16	3,162,386.01	(b)
London & Lancashire Indemnity Company—C	5,488,261.00	3,237,434.00	37,500.00
*Law Union & Rock Insurance Company, Ltd.—F	2,735,823.87	957,439.89	(b)
*Pearl Assurance Company, Ltd.—F	2,283,571.84	860,409.45	(b)
Orient Insurance Company—F	7,375,603.30	2,314,953.40	250,000.00
Safeguard Insurance Company—F	2,455,177.37	435,698.72	20,000.00
Metropolitan Fire Insurance Co. of N. Y.—F	514,344.00	59,306.00	.....
National Fire Insurance Company—F	49,037,251.92	19,117,654.67	1,000,000.00
Mechanics & Traders Insurance Company—F	4,721,454.60	1,277,350.94	.....
Franklin National Insurance Company—F	3,159,658.81	984,546.89	.....
Transcontinental Insurance Company—F	3,295,939.52	698,041.54	.....
Phoenix Insurance Company—F	42,738,394.09	10,910,540.42	1,200,000.00
Connecticut Fire Insurance Company—F	20,145,631.22	6,583,946.80	320,000.00
Equitable Fire & Marine Insurance Company—F	6,526,492.24	1,316,789.36	100,000.00
Minneapolis Fire & Marine Insurance Co.—F	1,710,014.61	(a)	40,000.00
Central States Fire Insurance Company—F	1,321,473.77	(a)	28,000.00
Phoenix Mutual Life Insurance Company—L	150,103,535.88	24,070,355.99	†3,799,653.00
Rossia Insurance Company of America—F	15,771,714.00	9,704,975.00	660,000.00
*Scottish Union & National Insurance Company—F	9,460,205.54	4,156,771.87	(b)
American Union Insurance Company—F	2,308,708.40	385,011.55	.....
Central Union Insurance Company—F	1,156,705.79	109,875.92	.....
Travelers Insurance Company—L, C	632,922,943.82	163,702,405.26	4,400,000.00
Travelers Indemnity Company—C	21,411,223.94	13,489,178.87	420,000.00
Travelers Fire Insurance Company—F	14,949,240.56	8,287,420.90	.....
	$2,090,245,811.02	$587,981,127.11	$17,594,500.00

* *Foreign companies; figures given represent business carried on since admission to U. S. A.*
(a) *All business assumed by Phoenix Insurance Company*
(b) *Company is owned by foreign company*
† *Dividends to Stockholders, 1930*

C—*Casualty*
F—*Fire*
L—*Life*

In the president's office at Aetna Life sits Morgan Bulkeley Brainard, nephew of Morgan G. Bulkeley, the company's third chief executive. The Bulkeley dynasty has always ruled Aetna, with one seven-year hiatus excepted.

Aetna's $8,000,000 Colonial home. The hourglass reminds us that "Our days begin with trouble here, Our life is but a span, And cruel death is always near, So frail a thing is man;" the insurance tower points the moral.

Thus a natural reduction of about 5 per cent a year in personnel is being effected.

The composite statistics of Hartford companies sound more like Wall Street than like Main Street of a venerable New England town. Collecting 15.5 per cent of all of the fire and 12 per cent of all of the life premiums in the United States, Hartford underwriters take in more than $1,500,000 daily or, in the course of a year, $588,000,000. For more than a century closely allied with local banks, it is not surprising that the insurers are heavily interested in several of the city's twelve discount banks and four mutual savings banks which have total resources of $317,000,000. Out of their huge premium income the Hartford companies earn, even in an unfavorable year such as 1930, sufficient above expenses and reserves to pass on $17,600,000 in dividends to stockholders. Their paid-up capital aggregates $111,450,000, to which has been added a surplus accumulation of more than one quarter of a billion dollars. Total assets, as indicated heretofore, exceed two billion dollars.

Had this agglomeration of capital no more human significance than the corralling of dollars we might dismiss Hartford as an ingenious Yankee money-trap. Its insurance funds, however, are prudently used to many beneficent national ends. One of these was financing development in the West. Another was the emergency flotation of war bonds, so greatly aided by mobile insurance money. Hartford is a seismographic city, sensitive to fire, hurricane, flood, influenza, shipwreck, explosion, and collision as well as quake; and its money goes in with the doctor, the undertaker, the fireman, the constable, the Red Cross, or the national guard.

Insurance Devotees

Since their organization the Hartford companies have paid out to beneficiaries approximately five billions of dollars, restoring countless ruined structures and assuaging inconceivable grief. The more reverent devotees of insurance liken it, and rank it next, to religion in its incalculable good to the greatest number. Almost they persuade you that, in Hartford, insurance is more than a means of living, it is a philosophy of life.

The city is a rich one, but its richness is that of an old tapestry, without gloss or swank. Perhaps this is because so many of the prudent, acquisitive people of Hartford have long lived in the same place. Paradoxically, there is the line of Joseph Morgan, fashionable tavern keeper and insurance man of Hartford, whose son, Junius Spencer, prospered greatly in New York. The regard of his heir, the elder J. P. Morgan, for his father's birthplace is attested by the Morgan Memorial, containing costly sculptures, paintings, tapestries, ceramics, rugs, and the Wallace Nutting collection of Early American furniture. It stands, on Main Street, beside the Wadsworth Atheneum, a museum of history and art, erected in 1844. These are linked by the Elizabeth Hart Jarvis Colt gallery, filled with portraits and a renowned collection of arms. This cultural center is conveniently located downtown, not far from the historic Bulfinch State House.

Much of Hartford's wealth may be attributed to the perpendicular growth of insurance during the present century. To understand this we have only to contrast

In 1835 New York was swept by fire. Eliphalet Terry, president of Hartford's first insurance company (founded 1810), sped to Manhattan and announced from his sleigh at a street corner that his company would pay all claims in cash. Premiums from new policyholders made up for Hartford Fire's disbursements.

the 8.5 billions of life insurance in force in 1900 with the 103.1 billions outstanding at the end of the century's second decade. Holders of insurance stocks, in which there is lively trading on Hartford's Stock Exchange, prospered commensurately. The new fortunes thus created and the older ones, founded in agriculture or manufacturing, have given Hartford the things that only money can bring: spacious, charming homes; a leisurely, congenial club life; wide, well-paved avenues, and handsome church, school, and other public edifices. Its 2,200 acres of park lands, unmatched by any municipality of comparable size, lend to Hartford a pastoral elegance that was, no doubt, the aim of the wealthy donors of several of the city's parks.

Nowhere in the nation is our slender American antiquity more fondly cherished than in Connecticut. Unless it be in Virginia, there is hardly a spot where "firsts" so abound as in this Constitution Town of the Connecticut River valley. Any inquiry into the present importance of Hartford as the insurance capital, therefore, should reach into the past.

Hartford, so called after Hertford, an English shire, was founded in 1636 by the pious, resolute Rev. Thomas Hooker, who led a band of one hundred pilgrims from England to this spot, via Massachusetts. The settlement nestled between the raw clearings of Windsor and Wethersfield, then less than three years old. In 1639 the Rev. Mr. Hooker fashioned out of one of his own sermons, with some help, a constitution for the three towns. Recognizing no royal authority over the colony, he thus shaped and set up the first autonomous government in the New World, earning for Hartford the name of "the birthplace of American democracy."

In Holland, almost simultaneously, Christian Huygens was formulating his law of probability, which is the basis of modern actuarial science and, thereby, of successful underwriting. Huygens disclosed that all events occur in accordance with a calculable chain of causes and that, scientifically, there is no such thing as chance. His theory of incidence was incorporated in 1783 by the ancient Equitable Assurance of London in the first mortality table, but it was not generally utilized by American underwriters until about 1870. From 400 B. C., when the Greeks advanced money on uncertain cargoes, until that time insurance was almost purely a gamble with Fate.

The first marine and fire underwriting in this country was done in Philadelphia by the Insurance Company of North America, chartered in 1792. Connecticut bankers entered the field the same year, but it was not until 1810 that the Hartford Fire, first of the city's companies, was founded. It had no reserves and no actuary, only honesty and audacity. When other companies admitted their inability to meet huge losses caused by the great New York fire of 1835, Eliphalet Terry, Hartford Fire's president, marshaled his resources, sped to the city, and, standing in his open sleigh on a street corner, announced that his company was paying all claims in cash. Premiums from new policyholders equaled the amount of his disbursements.

Thought for the Morrow

When in 1846 life insurance was introduced in Hartford (the New York Life had been founded the year before) by the Connecticut Mutual, it encountered what now seems like an incredible prejudice. Religious doctrine since the Middle Ages had inculcated blind faith and taught Christians to take no thought for the morrow. Ministers argued, therefore, that to insure human life was a sacrilege that tempted Providence. Nevertheless, the life underwriters survived. Moralists, in the grip of the reform wave of 1851, formed the American Temperance Life for teetotalers only, but the experiment failed. It was too difficult to be sure whether a defunct policyholder had not occasionally doffed the white ribbon. Adopting a more liberal policy in a few years, this company became the present Phoenix Mutual Life.

Since those early days, many important insurance companies have removed their offices to Hartford from other American cities or, in the case of foreign concerns, established their American headquarters there.

James Goodwin Batterson, who founded the Travelers in 1863. First to write railway accident policies in this country, it was expanded to embrace all forms of life insurance. Customer No. 1 was a local banker who paid two cents to insure life and limb while returning home from the post office. The trip was uneventful.

The twin giants of Hartford's modern insurance cosmos are, of course, the mighty Travelers and the almost equally colossal Aetna, both multiple-line companies but neither so old as some of its neighbors. Of the forty-five Hartford companies (more than half of which are affiliates of others) all but two are housed in the thirteen company buildings. These, scattered about the city, range in solid architectural magnificence from the Rossia's suggestion of the Petit Trianon of Versailles to the airy Spanish renaissance *oficina* of the Phoenix Mutual. Some of them are tall, but the tallest is the 527-foot tower that tops the offices of the Travelers, a chambered nautilus whose need for more stately mansions taxes five downtown buildings. Many are new, but the newest is the Aetna's $8,000,000 colonial home which, mounted on an elm-shaded knoll in a twenty-two-acre estate facing St. Joseph's cathedral, R. C., across Farmington Avenue, may easily be mistaken for a university. These companies personify certain characteristics of Hartford and its insurers: Aetna the continuity of family so marked in Hartford, Travelers the endless ingenuity of Hartfordites to devise new forms of insurance coverage.

Aetna's president, its fourth, is the tall, amiable Morgan Bulkeley Brainard; its vice president his cousin, William Eliphalet Adams Bulkeley. Both are nephews of Morgan Gardner Bulkeley, who, while third president of Aetna from 1879 to 1922, found time also to be governor of Connecticut and a United States senator therefrom. He was a son of Judge Eliphalet Adams Bulkeley, who was the first president of Aetna Life when, in 1850 it began as an offshoot of the Aetna (fire) Insurance Company that it now overshadows. The two Aetnas—fire Aetna which, chartered in 1819, was Hartford's second company, and multiple-line Aetna, writing all forms—are not to be confused. In the eighty-one years of big Aetna's history there has been but one gap in the Bulkeley dynasty—a period of seven years following Judge Bulkeley's death, when Thomas O. Enders held the presidency.

Birth of Accident Insurance

The Travelers, largest multiple-line company in the world, is almost wholly the outgrowth of one amazing, protean personality, James Goodwin Batterson.

Starting as a tombstone-cutter in his father's small Wintonbury, Conn., shop, Batterson first achieved rank as a contractor, furnishing stone for the Library of Congress in Washington, the Connecticut state capitol, and several New York business buildings. In 1863, while traveling in England, he observed in practice a makeshift form of accident insurance. Back home in Hartford, he encountered Banker James Bolter in the post office and offered to insure him in the sum of $5,000 against accident on his homeward stroll, a matter of four blocks. The banker accepted, and the premium named was a two-cent stamp.

The same year (1863) Batterson formed his Travelers company to write railway accident policies, extending its charter in 1866 to include all forms of life insurance. Imitators sprang up, and into Travelers were merged many of the smaller fry.

Had building stone and underwriting denoted the limits of Batterson's labors he would have been remembered, but he was in other ways noteworthy. After completing an interrupted education in law, he became a distinguished Egyptologist and an authority on Biblical literature; in addition, he published his own translations of the Iliad (in blank verse) and a Latin poem by St. Thomas Aquinas, an original epic poem titled Creation, and (1896) a treatise on gold and silver. He also was chairman of the Republican state committee but refused to hold public office. At odd hours of the day or night, Batterson would drop into the editorial rooms of the Hartford Courant, the oldest daily newspaper in the United States, write in longhand a report of some event or transaction, and quietly depart.

This stonecutter's monument is the Travelers, the oldest casualty company in the United States, with its $669,283,000 assets, its 1,800 men and 4,200 women employees, and its annual payroll of $10,237,000. Not many of the company's legions know his name, but among Travelers executives Batterson is as legendary as Beowulf.

The proportion of women employees, mostly young,

Detail of the state capitol, for which Batterson supplied stone. Beginning his career in his father's monument shop, he became a contractor, furnishing granite for many of the famous buildings of his day. Among his outside interests were Egyptology, the Iliad, and the Bible.

to men in the Travelers organization is not excessive; it represents an approximate average for Hartford insurance offices. One of the largest companies in the city employs an almost equal number of men and women, whereas another has only one male employee to every four female. There are few executives but many clerks. The work is simplified; frequently the sole duty of one clerk is to make a red or blue pencil mark in a ruled square. It does not matter whether a man or a woman makes the mark. One company, realizing this, in 1926 analyzed its jobs without reference to sex and organized them upon a basis of equal pay for equal work. The bulk of the clerical work, therefore, is done by girls. As the offices poured out their thousands of employees at the end of the day, an elderly official of a life company pointed out of his window: "There," he said proudly, "you won't find better looking or better dressed women anywhere in America."

However pleasant the surroundings, clerical monotony is distasteful to the eagerly ambitious male unless he can discern an executive's desk ahead. For those who dislike the odds, there are company training schools to fit them for the agency or selling fields, with prospects of larger earnings. In the company offices the wages of clerks, stenographers, and business-machine operators range from a minimum of $8 or $10 a week up to $25, according to ability and experience. There are a fair number of $2,500 and $3,000 a year positions, but few between that level and the top brackets. As evidence of Hartford thrift, however, bankers compare its average savings-bank deposits of $815 per capita with the national average of $232.

It is, however, neither accurate nor fair to label Hartford the insurance city and let it go at that. Its 350 industrial plants, producing $113,675,000 of manufactured goods annually, *(Continued on Page 72)*

The Cwiklas of Governor Street

Almost within the vanished shade of the Charter Oak, fabled cache of our civil liberties, lives Michael J. Cwikla, 56, Polish filer, fitter, and metal pattern maker, and his family. The Cwiklas (pronounced Cheek-wah) are eight: Michael and Petronella, the parents; Julius, 24; Amelia, 22; Joseph, 19; Ladislaus, now called Walter, 17; Angela, 15; and Elizabeth, 11. For their five-room flat in the brick tenement at 138 Governor Street the Cwiklas pay twenty-five dollars per month.

Michael, all of the twenty-seven years of his American life in Hartford plants, is idle. Capable of working in two, five, even ten thousandths of an inch—and of making forty or fifty dollars a week on piece work—he is not vanquished by a machine; it is a part of his trade to make machines to replace men. It is the depression, of course. Last November he was laid off by the typewriter company for which he worked. Joseph has no job either; he sold automobiles for a while, but people quit buying, at least from Joseph. Unlike his father he has no trade. Without work, without income for a long stretch, neither Michael nor the family is suffering; the Cwiklas are cheerful and well-fed.

Mamma Petronella still makes her $12 a week working for the Aetna Fire. Amelia collects $20 every week from Aetna Life. Julius drags down $22 a week driving a truck for Honiss' Oyster House. To the Cwiklas, with their $54 of steady income each week, there is no panic, just slack times in Hartford. Weekday mornings Walter and Angela are off to high school, Elizabeth to grammar school, as usual. Sunday mornings the devout Cwiklas attend mass a block farther down the street at the Polish Roman Catholic church of St. Cyril and Methodius.

"We get along great," Angela smiles. "A fine, clean-cut family," the fathers of St. Cyril's add.

Thus the industrial peace and equilibrium are kept in Hartford, a city whose payrolls are so marvelously balanced between factory and insurance office that there are no slums and almost no destitution as it is known in other cities. In this way the insurance companies, by providing unfluctuating employment, are fulfilling the prime obligation of insurance, which is to stabilize and make secure.

WORLD'S WORK SCRAPBOOK

THE ENTIRE WORLD OF HUMAN ENDEAVOR IS EMBRACED IN THESE NOTES AS TO WHAT GOES ON ABOUT THE GLOBE

BELIEVE it or not, there is a fish that goes fishing with a dip net and basket and stores its surplus catch in its own refrigerator for future use. It is the pelican flounder, which lives deep in the Pacific near the Hawaiian Islands. Its mouth contains a thin, tough membrane which can be stretched to form a pouch like that of the pelican. This is both a net and a storage place for such edibles as deep-sea shrimps. This food will keep indefinitely for the temperature of the water, and of the fish itself, is just above the freezing point. The Field Museum in Chicago has a specimen of this complete angler.

An interesting feature of the cotton situation is the large amount of the product now in possession of small buyers. In all parts of the South people of moderate means have bought a few bales of cotton, storing them in the garage, the woodshed, or the barn. This form of storage costs nothing and cotton will keep for a long time. Many planters, aided by the banks, haul their own cotton home from the gin and hold it in the hope of better prices. To the true Southerner cotton, bought at the recent low price, looks as good as money in the bank.

SYNTHETIC rubber made from acetylene is an achievement announced by E. I. du Pont de Nemours and Company, and plans are afoot to manufacture the product at Deepwater Point, New Jersey. The raw material used consists of coal, limestone, salt, and water—ingredients which are present in natural rubber. It is understood that the product would be used at present only in the manufacture of hard-rubber articles. For such purposes as tire making it could not enter into competition with natural rubber—especially at a time when real rubber is selling at five cents per pound.

As far as is known, the common cold is the only germ disease which is easy to catch time after time; unlike other ailments it does not create an immunity. In some diseases this immunity lasts a lifetime, in others it seems to wear off after a few years. R. R. Spencer states in an article for the American Medical Association that cold is the one thing we can catch over and over again. Perhaps that is why the common cold is so common.

CORNELL University announces the discovery, by Prof. Jacob Papish and Eugene Wainer, of chemical element number 87. Of the ninety-two elements in the periodic table all are now accounted for except number 85. The Cornell investigators used the X-ray-spectrum method. This remarkable device shows the number of orbital electrons in each atom studied: five in boron, thirteen in aluminum, twenty-five in manganese, and so on. When the spectrum showed an atom with eighty-seven orbital electrons in the mineral samarskite they were sure they had found the missing element. Thus far the new element has not been isolated. Until it is, the existence of the element will not be established beyond doubt. There is, in fact, another "candidate" for the position advanced by Alison and Murphy of the Alabama Polytechnic Institute.

Smoky cities have one advantage over the open country; they are warmer in winter. For example, tests have shown that in Des Moines, Iowa, on a clear night the temperature is usually five degrees higher than that of the surrounding countryside—sometimes as much as fifteen degrees higher. The smoke acts as an atmospheric blanket which constantly conserves the city's artificial heat.

IF WE may judge from the personal-injury figures compiled by the Travelers Insurance Company, the teens constitute the age of indiscretion for automobile drivers. The accident record of drivers under twenty is 39 per cent worse than the general average. Drivers in their twenties are 29 per cent worse than the average. The records continue to improve with age. Motorists in their thirties are 3.6 per cent better than the average, in their forties, 29 per cent better. At fifty and over drivers have a record of 36 per cent better than the average. These figures indicate that mature judgment is an important safety factor.

A music composing machine, the invention of a priest, is reported from Italy. A delicate instrument which works by a secret process is attached to the keyboard of a piano and as the composer picks out the notes of his new score they are registered on a musical staff. This device is designed to prevent the musician from forgetting certain combinations of notes before he can get them down on paper.

THE mysterious "death fog" which took many lives in the Meuse Valley of Belgium in 1930 is thoroughly explained in the final report of the commission of chemists which investigated the disaster. Sulphur gases from factories, combined with cold and foggy weather, caused the trouble. Sulphurous acid commonly occurring in coal smoke is unpleasant, though not particularly dangerous. In contact with cold fog, however, it is changed into corrosive sulphuric acid causing serious injuries to the throat and lungs.

Aspiring to the title of the "West Point of the Air," the greatest flying school in the world is in the making in Texas, sixteen miles east of San Antonio. Randolph Field will have an army population of five thousand, housed in 244 buildings, on an area of four square miles. The extensive electric system will include forty flood lights to illuminate the flying field. The army chose this location for the school because the climate makes possible the greatest number of fine-weather flying hours per year.

(Continued on Page 81)

Patent Injustice

The intricacy and delay in the operation of the United States patent system has passed a $100,000,000 buck to American industry. The present code holds up new enterprise, and though independent inventors suffer most, great research laboratories are also penalized

IT WAS SAID, somewhat in malice, that General Zeb Vance of North Carolina was one of the most untechnical men ever associated with the United States Patent Office. One day in 1885, while sitting as assistant commissioner of patents by grace of Grover Cleveland, he called in the chief clerk to complain that his swivel chair was too low for comfort. The clerk, Schuyler Duryea, listened respectfully, then asked the general to rise. Giving the chair a few smart whirls, Duryea adjusted it easily to the desired level. "Well," marveled the assistant commissioner of patents, "ain't that a wonderful invention!"

Expensive Mechanism

A no less remarkable contraption, in the eyes of those who neither invent nor manufacture, is the American patent system. There are, to prove it, dozens of great enterprises founded upon and flourishing beneath patent protection; the fortunes paid successful inventors in royalties. It must be admitted as well that the patent system, by fostering the keen American instinct of contrivance, has encouraged the inventions that are responsible for our industrial civilization.

What the public does not see, of course, is the absurd intricacy, injustice, expense, and delay that characterize the operation of the patent system, nor the many nasty falls that it gives inventors and manufacturers. For, despite its incontestable utility, the system is not such a simple and serviceable mechanism as a swivel chair. It is, on the contrary, more complicated than half the inventions it is designed to protect.

The present complex system was created quite simply by the Constitution, which empowered Congress "to promote the progress of science and useful arts by securing to inventors for limited times (now 17 years) the exclusive rights to their discoveries." The nature of the intended monopoly is negative since the government can confer upon the inventor only exclusion and not the right, which is already his, freely to make, use, and sell his invention. The monopoly, therefore, to be of value to the inventor should be in reality airtight, a privilege actually *secured* to him beyond question. That, however, is far from the case.

Our system of granting and protecting patents consists of the Patent Office, with its endless ritual and overburdened staff of examiners, some three thousand practicing members of the patent bar, and the courts which are engaged in construing the statutory law as applied to patents. Structurally unchanged since the beginning, it is a soundly engineered though ancient mechanism. It is, however, too expensive, slow, and uncertain to operate under present loads. A thorough, careful overhauling by Congress is needed, but none is so rash as to predict when, if ever, the job will be turned out of the legislative shop.

Much of the present waste involved in administering patents could be averted, no doubt, if only fewer but more valid patents were issued. This would greatly reduce litigation, the most malignant evil of the system. Case-reporting services reveal that approximately fifteen thousand lawsuits have grown out of the 1,800,000 patents issued to date in this country. Probably twice this number of patents have been in litigation which, settled out of court, never reached trial or, if carried to trial, were not regarded as sufficiently important to warrant inclusion in the records.

Estimating that the average patent suit costs $5,000 (although many attorneys say $10,000), there is assessed against the patent system a liability of $75,000,000 for adjudication of issued patents. Allowing $1,000 each, surely a modest figure, for the 30,000 suits begun but never tried, the system's debit runs to more than $100,000,000—a sum ample to operate the Patent Office efficiently for twelve years.

This is the costly "buck" that Congress passes to Business by declining either to remodel the patent system or to grant appropriations adequate to operate the Patent Office under the present laws. Its neglect produces a multiplicity of patents that are rarely regarded as valid until they have been adjudicated by the federal courts, at considerable unnecessary expense.

"Corporate Genius" Suffers Too

Probably the heaviest penalty of inefficient patent administration falls upon the individual experimenter, whose importance has been somewhat obscured of late by the progress of "organized science"—the impressive regimentations of money and talent belonging to the great industrial and institutional laboratories. It was, however, according to reliable authorities, the individual and not the corporate genius of the great business laboratories who produced most of the outstanding inventions of this age. Science, and

particularly organized science, has earned most of its applause by refining and improving the basic discoveries of lone inventors, whose results generally are obtained, without benefit of ballyhoo, by homely, empirical methods.

When, though, it comes to obtaining patent protection the advantage lies heavily on the side of the corporation: it can afford the best patent attorneys, the most learned expert witnesses, and the longest court fights to establish its rights. The traditionally impecunious lone inventor cannot. He sees his discoveries shrink in market value as the difficulties and dangers of their commercial exploitation multiply.

The Costly "Patent Structure"

To illustrate, let us demonstrate the workings of the patent system on the hypothetical Mr. Watts, an electrical expert. Suppose that Mr. Watts—after devoting five years and $50,000 to experiment in his laboratory—discovered a revolutionary method of making beryllium from beryl, a mineral cheap and abundant in this country. He found that by shooting heavy, high-frequency alternating currents through the raw ore he could extract a metal which, harder than steel, was lighter than aluminum. There was, he perceived, a tremendous field for the product. Its use in locomotives, automobiles, and airplanes would reduce their weight, fuel consumption, and repair bills as well as lengthen their service; in addition, many new articles, long wanted but lacking a suitable material for their making, could be fashioned from beryllium.

Boundlessly elated, Watts retained an able patent attorney, who after a tedious and expensive search reported that there were no outstanding patents in any way conflicting with the claims he had carefully drawn to cover Watts' process. This did not mean, the attorney cautioned, that a patent would be forthcoming immediately. There were in the Patent Office ahead of Watts' application, he said, approximately one hundred thousand other applications; each of these, to protect the inventor's interests, would remain a veiled mystery until patent was granted or denied. Being closed to examination, these applications could not be included in any search, however thorough. One or more of the one hundred thousand shrouded secrets might ultimately mature into a patent on which the Watts process might conceivably infringe; or one of them might constitute a complete disclosure of Watts' invention and therefore make it impossible for him to obtain a valid patent.

Furthermore, the patent lawyer said, Watts' application would have to await its turn. It would be five or six months before an examiner could consider the merit of his claims at all, and subsequent correspondence with this examiner might require from one to three years. The candid attorney also informed his client that, owing to the great value of his discovery, he might expect trouble from two sources: honest but self-deluded inventors who would imagine they had anticipated Watts' discovery, and others, perhaps less scrupulous, who would attempt to vary or refine Watts' process in order to evade his patent, when issued, or to prevent its issuance. For the sake of safety, therefore, the process should be covered not

Outstanding American Patents

From Steamboat to Frozen Foods

Invention	*Inventor*	*Year Issued*
Steamboat	Fitch	1791
Cotton Gin	Whitney	1794
Duplicating Lathe	Blanchard	1820
Reaper	McCormick	1834
Revolver	Colt	1836
Telegraph	Morse	1840
Vulcanized Rubber	Goodyear	1844
Sewing Machine	Howe	1846
Valve Gear	Corliss	1849
Shoe Sewing Machine	McKay	1862
Machine Gun	Gatling	1862
Typewriter	Sholes and Glidden	1868
Air Brake	Westinghouse	1869
Celluloid	Hyatt	1870
Shoe Welt Machine	Goodyear	1871
Automatic Train Coupler	Janney	1873
Barbed Wire	Glidden	1874
Telephone	Bell	1876
Phonograph	Edison	1878
Reënforced Concrete	Beams and Hyatt	1878
Arc Light	Brush	1879
Carbon Filament	Edison	1880
Cash Register	Ritty and Birch	1883
Expanded Metal	Golding	1884
Trolley Car	Van Depoele and Sprague	1884*
Electric Welding	Thomson	1886
Split-phase Induction Motor	Tesla	1888
Recording Adding Machine	Burroughs	1888
Aluminum Reduction	Hall	1889
Linotype	Mergenthaler	1890
Sulphur Mining by Wells	Frasch	1890*
Transmitter	Berliner	1891
Case-hardened Steel	Harvey	1891*
Dial Telephone	Strowger	1892
Kinetoscope	Edison	1893
Carborundum	Acheson	1896
Monotype	Lanston	1896
Autoplate	Wood	1898*
High-speed Steel	Taylor and White	1901
Safety Razor	Gillette	1904
Bottle-making Machine	Owens	1904
Radio Wave Production	Fessenden	1904
Radio Crystal Detector	Dunwoody	1906
Airplane	Wright Bros.	1906
Radio Grid	De Forest	1907
Electric Precipitation	Cottrell	1907*
Bakelite	Baekeland	1909
Mercury Vapor Light	Hewitt	1912
Pressure Oil Cracking	Burton	1912*
Radio Regenerative Circuit	Armstrong	1914
Gyro Compass	Sperry	1918
Ethyl Gasoline	Midgeley	1921*
A. C. Electric Timing	Warren	1916*
Teletypesetter	Kleinschmidt and Morey	1925*
Quick Freezing	Birdseye	1930

**Year Invented*

Courtesy Philadelphia General Hospital and the Philadelphia Electric Company — William Rittase

Patient? Yes. Patent? Patience!

In the winter of 1927, officials of the Consolidated Gas Company of New York conferred with Prof. Philip Drinker and his associate, Louis Agassiz Shaw, of the Harvard School of Public Health. Their object was to develop a device whereby artificial respiration might be applied for indefinite periods to patients suffering partial or complete paralysis of the respiratory system.

Drinker and Shaw knew from the study of physics that air pressures tend to equalize themselves and, as well, that the air pressure within the human body is exactly equivalent to that surrounding it. Within a few months they had developed—with the financial assistance of Consolidated Gas, which long had needed such an apparatus for use in asphyxiation cases—the now famous Drinker "artificial lung."

In a formidable-looking sealed cabinet (see above) the patient's body is submitted to regularly alternating slight negative air pressures (vacuums) and normal pressures. As pressure within the cabinet is decreased, air rushes into the patient's nose and mouth, which are outside the cabinet, and he is gently forced to inhale; as normal air pressure on the body is restored the patient automatically exhales.

Drinker and Shaw put their machine into practical use in 1928 and soon after applied for a patent.

Three years have passed. More than two hundred Drinker respirators have been made and put into life-saving service, with dramatically successful results, and a Franklin Institute medal has been voted Drinker and Shaw—but no patent has been issued to the inventors. There is no reason to believe that they are not entitled to patent; it is only the customary delay.

Meanwhile, inventors Drinker and Shaw may freely make, use, and sell respirators; but so, likewise, may anyone else. When, as, and if the inventors obtain a patent, they cannot recover retroactive damages from their imitators, for there can be, under our present system, no infringement of an unissued patent.

only by one basic patent but by several subsidiary patents, or what is known as a patent structure. Costly, of course, but probably worth it, even at $500 per patent.

Somewhat taken down, Watts set out to enlist capital to develop his invention. He succeeded in interesting Mr. Kale, a capitalist who knew both the odds of the game and—remembering the Mellons and aluminum—the huge potential value of beryllium. With Watts he formed the Beralloy Corporation of America and began erecting a $1,000,000 plant.

The "Patent Pending" Racket

While the Watts applications were moving through the Patent Office they ran into an "interference." Another metal company, five years before, had filed and kept alive applications covering its commercially unsuccessful attempts to make beryllium. The investigation and elimination of several overlapping claims cost the Beralloy Corporation about $10,000. Luckily this "interference" was not prolonged, as has sometimes been the case, for several years. In approximately eighteen months from the date of application Watts' patents were issued and production of beryllium was started under the inventor's supervision.

Three months later, when production was almost ready to be stepped up to commercial scale, the Beralloy Corporation received formal notice that it was infringing a month-old patent held by a man named Stahl. Patent Office records revealed that the application had been filed in 1915 by an inventor who, now deceased, had assigned all his rights to Stahl. The application originally covered attempts to make synthetic rubies by shooting heavy, high-frequency alternating currents through red clay. Obviously, Stahl simply had observed Watts' success and broadened his claims to cover the metal extraction process; this was the development he had laid in wait for since 1915. Intentionally prolonging, by legal and technical maneuvers, the pendency of his application, Stahl had held a dragnet over this particular field of metallurgy for fifteen years.

British Manage Better

There is no law or regulation at present to prevent this practice. For sixteen years George B. Selden, lawyer-inventor, delayed issuance of his patent on the automobile clutch. At the opportune moment, in 1895, he brought it out and bled the automotive industry, which he had in no way benefited, for $2,000,000 in royalties before Henry Ford proved the illegality of the tribute he demanded. Such domination of a growing industry by a long-pending, suddenly issued patent is not uncommon. Talking pictures made today by the sound-on-film method pay royalties under the Fritts patents, granted in 1916 but originally applied for in 1880—before there were any motion pictures at all!

Although the British patent system is closely modeled after our own, such things cannot happen in England. Unless special permission is obtained, a patent is granted or refused within eighteen months after application is filed. The principal difference between the American and European patent systems, however, is in the number of patents issued. In three hundred years England has granted but 360,000 patents, as contrasted with the almost 2,000,000 patents that have been issued by the United States government since 1790.

But to return to beryllium. With Watts' fortune and career, Kale's $1,000,000, and the jobs of two hundred workmen involved, the patent-litigation game began. Threatening to close the Beralloy plant by an injunction (which he knew he was unlikely to get), Stahl demanded substantial royalties; or, his attorney intimated, Mr. Stahl might consider an exchange of Beralloy stock for his patents. Proposing to fight such extortion, Kale appropriated $25,000 for legal expenses,

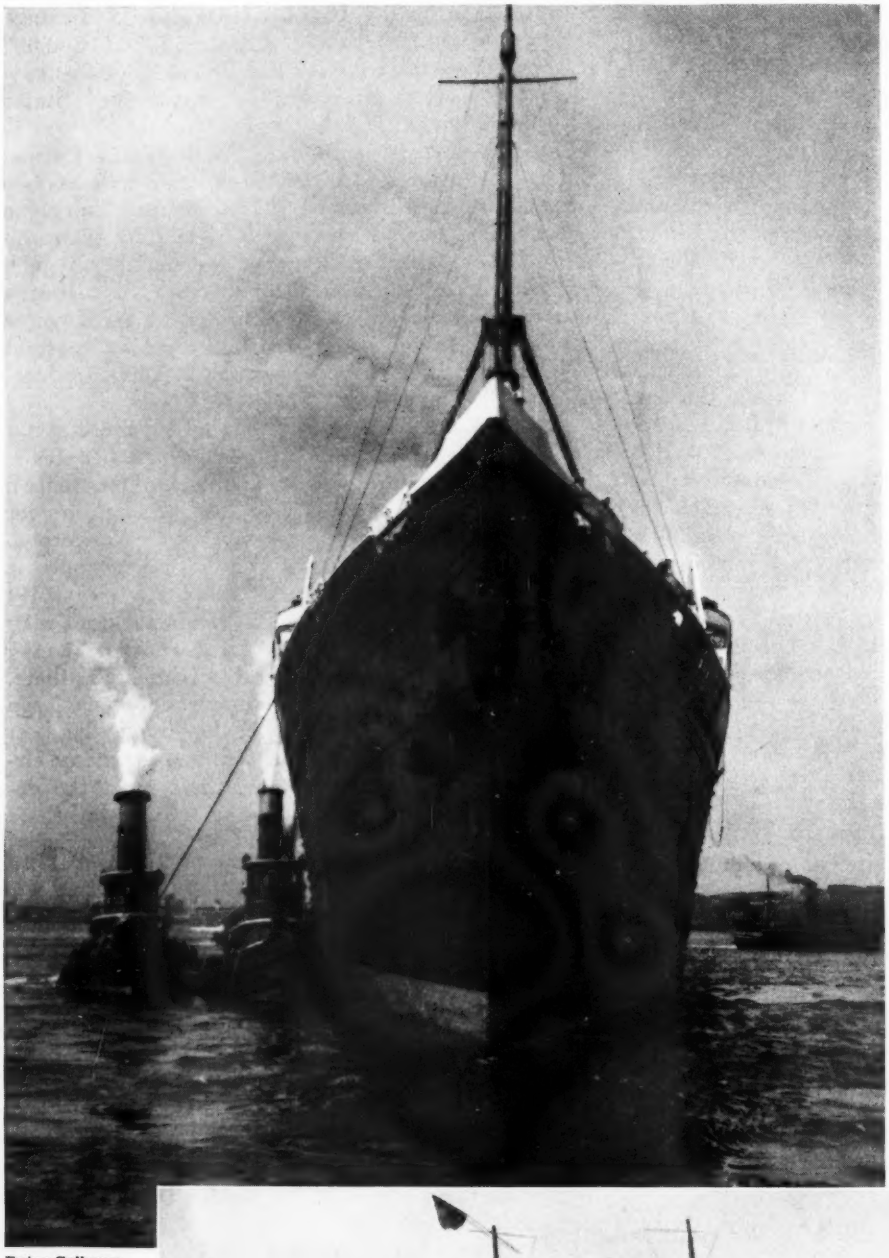
At this point Watts and Kale learned more about the intricacies of patent law. The United States is divided, their attorney told them, into ten federal circuits, each having a court of final jurisdiction over patent cases, in so far as its circuit is concerned. These constitute, in effect, ten independent supreme courts for patent appeals, each bound only by comity to respect the other's decisions. Thus a patent may be valid in one circuit and invalid in another; it may be held to be infringed here and not infringed there. Shrewd lawyers, by studying previous decisions, learn to choose the circuit in which they have the best chance to win. Wherever, or in however many circuits, the plaintiff cares to sue, there must the defendant answer. It is an indefinite routine and there is but one entrée to the United States Supreme Court, where a final decision may be obtained. This is by writ of certiorari; but the highest court, having its hands full, never grants such a writ unless the case involves some ponderous question of public policy or epic interpretation of the law.

Threats of Infringement Suits

Therefore, to establish the mere right to petition the one court that can render final judgment it is necessary that the patent shall have been adjudicated oppositely by two separate circuit courts. If there be logic in this process it escapes the business man's comprehension.

It is, nevertheless, what Watts and Kale were forced to do. The $25,000 laid aside to defend the Beralloy rights was only a starter. The suit will cost probably $150,000 before it is ended. Because of the value of the underlying patent, the beryllium case was destined to become a *cause célèbre*. It went through three circuit courts—two deciding in Watts' favor and one in Stahl's—and finally emerged to confound the justices of the Supreme Court. They are still puzzling over the reams of testimony, briefs, and electrical technology that comprise Stahl vs. Watts.

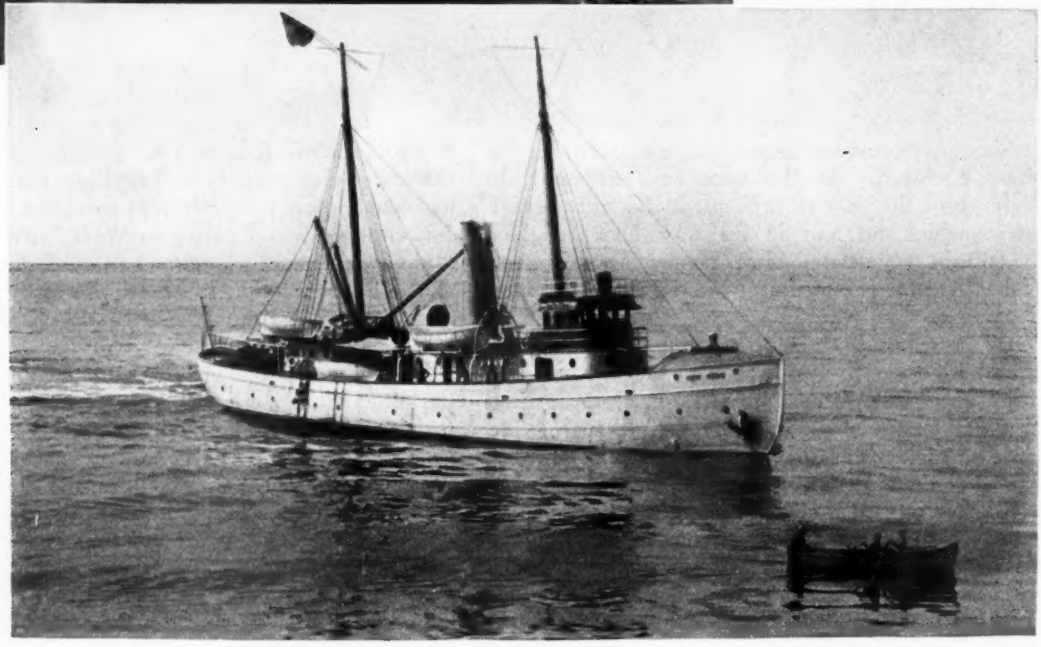
During the three years' pendency of the suit the Beralloy Corporation has made little beryllium. Kale's capital and Watts' attention have been diverted from the business; new financing has been rendered impossible by the cloud upon the title to the extraction process. Stahl has demoralized the market for the product by threatening dealers and users with infringement suits. Possessed of unlimited funds, he is out to wear down Watts and Kale—to defeat their patent or bluff them into "cutting him in" (*Continued on Page 80*)



Ewing Galloway

At left—Diminutive tugs help the Leviathan to nose her way into her berth at pier 86 along the Manhattan shore of New York's North River. As many as ten tugs might be needed, on occasion, depending on the tide.

Below—One of the service ships of the New York Pilots' Association salutes, with dipping flag and whistling siren, a liner starting for Europe. In the stern of the rowboat sits the recent pilot.



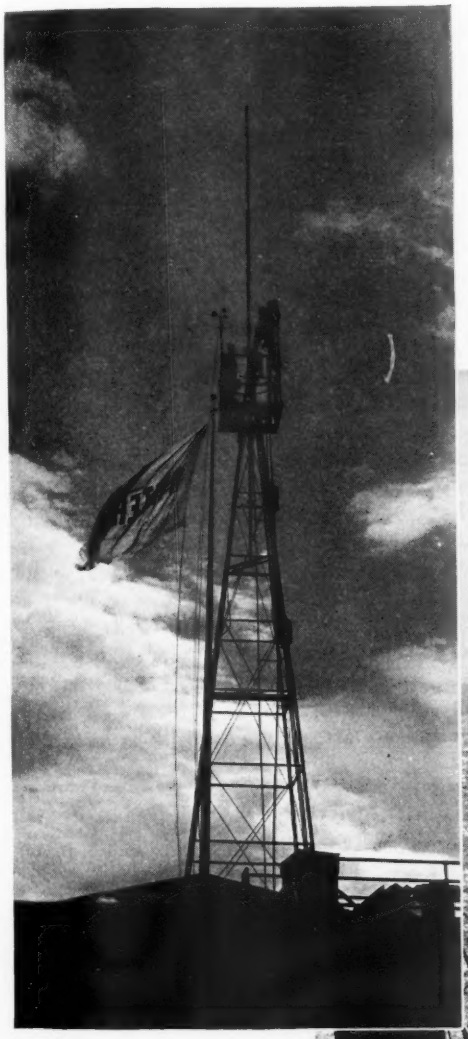
Charles Phelps Cushing, from Nesmith

Pier 74 to Sandy Hook

(*For text turn to page 6*)

Cushing, from Nesmith

Tricky business, this stepping off an eight-story floating hotel in what might as well be mid-ocean. Ordinarily, however, it's mere child's play to the trained pilot.



Nesmith

Above—Atop the Whitehall Building (lower Manhattan) is an observation tower of the U. S. Weather Bureau. From it the latest readings are relayed to the 120 licensed New York pilots.

At right—The S. S. Philadelphia picking up her pilot outside New York Harbor. Ever since 1784 Sandy Hook pilots (Zachary Rufler was the first licensed) have been bringing the big boats in.

Nesmith

Our "Backward" Parents

By RAY LYMAN WILBUR

Secretary of the Interior

Were it not for his mother and father, the difficulties of the problem child could be met with comparative ease. Each year experts are helping to turn these human liabilities into assets, yet grave stumbling blocks remain for those who work for the younger generation

IN THE past fifty years there has been developed a body of knowledge about the human mechanism which, if fully applied, would effect an unexampled improvement in the race in a single generation. In order fully to apply this knowledge, however, it would be necessary to kill off all the adults who through ignorance, prejudice, or superstition oppose its application. The immediate problem, therefore, is to educate adults to use this vast accumulation of knowledge for the benefit of children.

Wanted—Equal Opportunities

In a democracy such as ours there are many special difficulties to be met in facing this problem, aside from those inherent in human nature. Our local self-government gives us the widest possible divergence in the efficiency of our public services in different communities. There is, for instance, a public school in Illinois which has the finest modern equipment and the highest grade of teachers. The children are being given the best that a school can furnish. Across the road, but in another county, is another public school, where the teaching is inferior and the equipment poor. The tax rate for the support of this school is one fifth of the rate for the good school, and the results are proportionate. Similar discrepancies exist in all the services instituted to guard the health and further the education of our children. Therefore we must deal with a situation which is a hodgepodge of the worst and the best.

Our popular conception of democracy—the idea that all persons are equal—leads to the fallacy that all are alike and should be given uniform treatment. In reality no two persons are alike in their needs or capacities. Yet all are entitled to an equal opportunity for the development of whatever capacities they have.

Another difficulty in our democracy is that, except in times of special stress, active and clamorous minorities dominate inactive and unclamorous majorities. This condition gives the cranks and theorists their opportunity. The more unsound their views the louder they clamor for their adoption. In certain fields they are restrained by economic conditions, but in work for children they are practically uncurbed.

No fact has been more firmly established by the science of medicine than the necessity and efficacy of vaccination against smallpox, and yet a surprisingly small percentage of our children are being so vaccinated. The great majority are not given preventive treatment until they reach school age, whereas the age at which they most need it is between two and five. Vaccination against diphtheria, regarded as a more immediate menace, is somewhat more universal.

Another difficulty is our tendency to regard our ills as inevitable. Just as our Puritan forbears regarded misfortunes as visitations of Providence, so we are prone to look upon avoidable ills with a fatalistic eye. Many parents so regard children's diseases. In their view their children are doomed to these afflictions, which they must survive as best they may.

When I was in private practice I had as patients a family who used to let their children run wild during the day, eating candy and getting their feet wet, with the result that the children frequently woke at night with croup and acute stomach aches. The parents would then lose a night's sleep and rout me out of bed to come over. I finally rebelled and told them I would not continue to repair the results of their own carelessness, that if they wanted to get another doctor to make a fool of they were welcome to do so. That threat improved that particular situation, which illustrates an attitude all too common among parents.

Offset a "Biological Blunder"

The same tendency to deal with results rather than causes applies, of course, to delinquency among children. That was what once led President Hoover to say: "One good community nurse will save a dozen future policemen." And that was what has often led me to say that we must spend more money on playgrounds and community nurses if we wish to spend less on jails and judges.

Our modern industrial centers, built as they are for business purposes only, have crowded the children out of their homes into the streets. They have no place to play, no place to learn to love. That is the greatest and most costly biological blunder the human race has ever made. If not offset it may readily wreck our civilization.

The Price Merry-go-Round

Looking the fear-fattened cost-of-living dollar of 1929-31 squarely in the face. Why and how much it will buy now, compared with early depression days, and the reasons therefor

HE RODE up to the village store in his flivver, shut off the engine, and walked in through the open door. The morning rush of housewives was over and the grocer would have time now to talk. Perhaps, he reflected, he might be able to get a real order today, instead of the usual chicken feed. The shelves, he noted, were half bare and the stock was run down. Certainly the place was begging for goods. If he could only show the storekeeper——

But no. "Put me down for a dozen cans of that," the grocer ordered, as they went over the list. "And I guess I can get by with six jars of this. Don't need any more of those just now; I see we've still got four or five packages."

And so down through the line. The salesman extended the figures and added them up: thirty-seven dollars and a few odd cents. The place needed at least twenty times as much, and needed it badly.

"All right, Mr. Jones, much obliged to you," the salesman said, putting his order book away. And then: "Busy? I'd like to have a little talk with you."

"Fire away."

"There's something that puzzles me," the salesman began. "Maybe you can explain it. Let me ask you a question or so, to get the situation clear. This town is growing, isn't it?"

"Yes," replied the storekeeper. "Coming right along. Not so fast, maybe, as a couple of years back, but it ain't losing any ground. We've got more people here now than we ever had."

"Exactly. And they still eat three meals a day, don't they?"

The grocer grinned. "Most of 'em," he answered.

"Well, I know you're getting your share of the business," the salesman went on. "You've got the biggest store in town and the chains haven't bothered you."

The storekeeper stared at his questioner. "I think I'm getting what's on your mind," he said presently. "What you want to know is why I don't give you bigger orders. Is that it?"

"Right! You used to think nothing of ordering two or three hundred dollars' worth of goods at a time. Now—well, I haven't had a hundred-dollar order from you for months. What's the answer?"

"There are two answers," the grocer told him. "The first is that a while back I was selling two thousand dollars' worth of goods a month; now I do well to gross fifteen hundred. My rent and clerk hire are about the same, and collections are a lot poorer. I have to watch all my corners and clip one every chance I get.

"That's the first answer. You ought to know the second. Take that Triple Y coffee, for instance. We sell a lot of it. A while back it cost me 38 cents a can and I sold it for 47. One day when I was stocked up with it, the price dropped to 40 cents a can. I lost money. Yes, I know, you sold it to me then at 33 cents a can, but I had to take my loss on what I had in stock.

"Well, before long there was a new price, 36 cents a can. You sold it to me then for 30. And just a couple of weeks ago the price dropped again to 33 cents, and you sell it to me for 28.

"It's pretty much the same with everything else. Now I'd be a sucker, wouldn't I, to load myself up with a lot of stuff at today's prices and lose money selling it at the lower prices tomorrow?"

The salesman saw. "It means," he said, "that the dollar buys a great deal more food now than it would buy a couple of years ago. That is the reason, isn't it, why you take in $1,500 now as against $2,000 before? And for that $1,500 you probably handle as much goods now as you handled for $2,000 two years back. Is that right?"

"More," agreed the storekeeper. "I'm selling more actual stuff today than before the depression began. That

COMPARISON OF INDEX NUMBERS OF COST OF LIVING
(1913=100.0)

	Dec. 1929	June 1931	Per Cent of Change
Food	158.0	118.3	—25.1
Clothing	160.5	146.0	— 9.0
Rent	151.9	142.0	— 6.5
Fuel and Lighting	178.7	165.4	— 7.4
House-furnishing Goods	197.7	177.0	—10.5
Miscellaneous	207.9	206.6	— 0.6
All Items	171.4	150.3	—12.3
Coal, anthracite { stove (Retail)	198.5	185.5	— 6.6
Coal, anthracite { chestnut (")	189.6	180.8	— 4.6
Coal, bituminous (Retail)	166.5	147.3	—11.5
Electricity (Household use)	82.7	80.2	— 3.0

COMPARISON OF PURCHASING POWER OF THE DOLLAR IN TERMS OF COST OF LIVING
(1913=$1.00)

	Dec. 1929	June 1931	Per Cent of Change
Food	$0.633	$0.845	+33.5
Clothing	.623	.685	+10.0
Rent	.658	.704	+ 7.0
Fuel and Lighting	.560	.605	+ 8.0
House-furnishing Goods	.506	.565	+11.7
Miscellaneous	.481	.484	+ 0.6
All Items	.583	.665	+14.1
Coal, anthracite { stove (Retail)	.504	.539	+ 6.9
Coal, anthracite { chestnut (")	.527	.553	+ 4.9
Coal, bituminous (Retail)	.601	.679	+13.0
Electricity (Household use)	1.209	1.247	+ 3.1

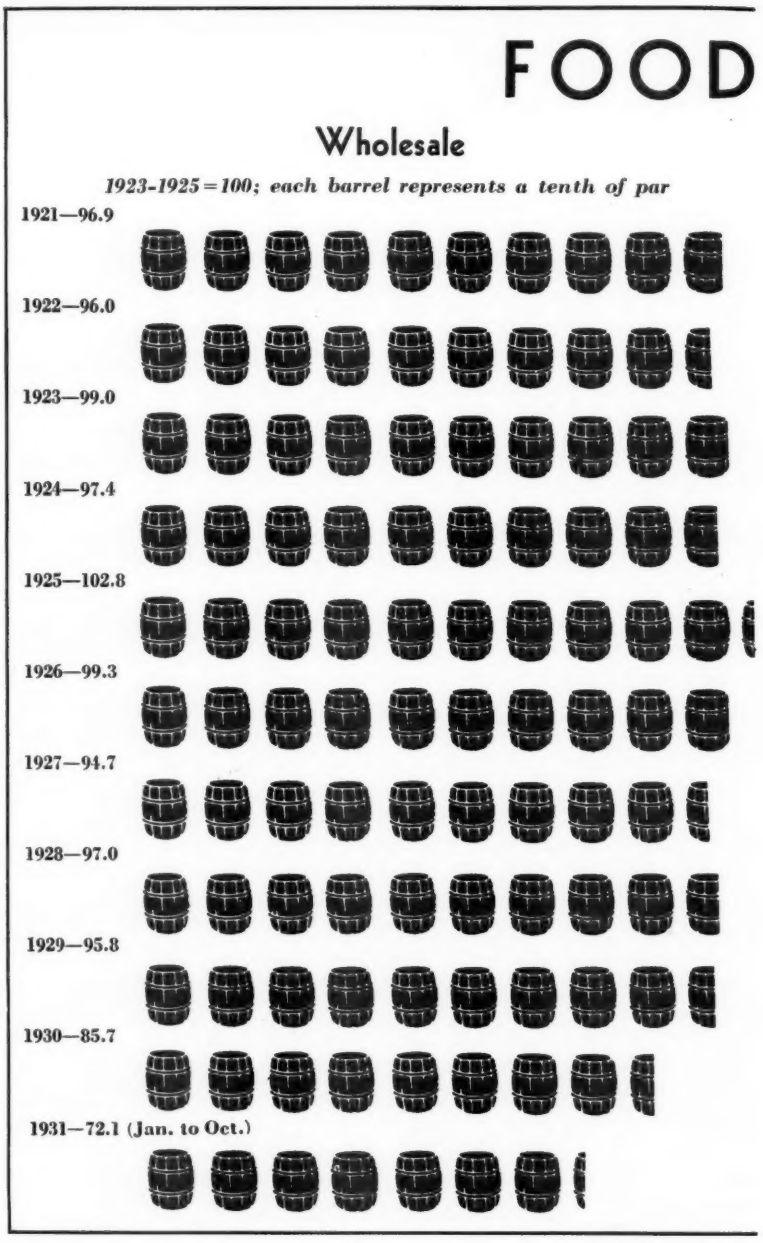
means more handling and more work. But I'm getting a fourth less money. I am afraid to stock up—afraid to take the chance of further price drops. That's why the stock's run down; that's why I order just barely enough to last me till you come again."

The salesman pondered. "Doesn't it mean, too, that you'll order in big lots when prices begin to rise?"

"You've said it, son," replied the storekeeper heartily, turning to wait on a customer. "Only a little boost in prices—a little boost in, say, half a dozen or a dozen staples—and the lid's off! When we know the turn has come, we'll fall over ourselves ordering stuff. You'll need extra trucks to haul it."

The lines of the boat in which Mr. Jones rides with many thousands have been described at considerable length. All over the United States, shelves are light and stocks are run down. Merchants everywhere are buying only from hand to mouth, fearful lest prices drop again. All over the country prices have been dropping long and steadily, like a rain that has lasted two years and outdone the Flood.

One is tempted to think of the glory of the sunshine that always follows the long, long rains. What a day that will be! The miles of half-empty shelves that will call for new goods when prices *do* begin to rise; the whirring wheels of factories set spinning frantically to supply the mammoth maw of a dieted demand; the puffing trains with crews recalled from long idleness; the fleets of motortrucks; the army of reëmployed workers—all in prospect when retail prices finally come to the end of the lane that has not turned since '29. The enormous demand is there, latent, from every crossroads grocery to mammoth metropolitan stores.



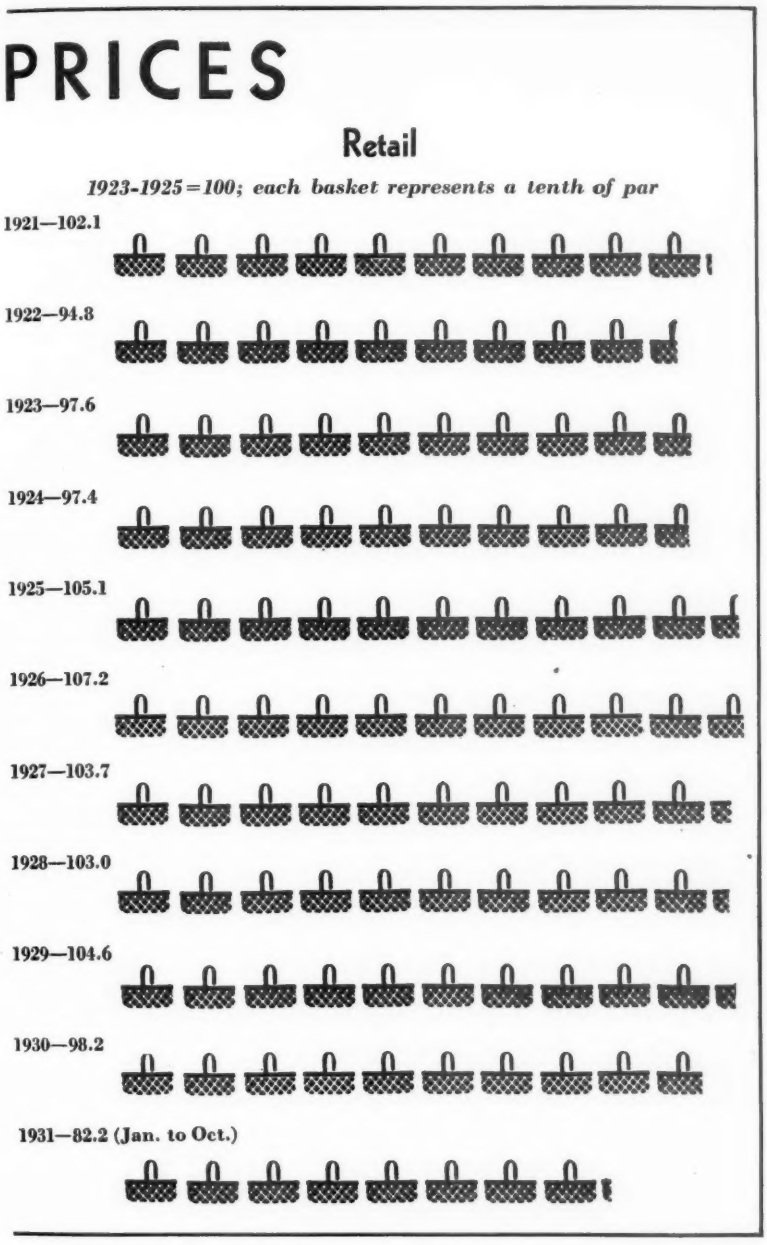
And yet there are men today—sharp and shrewd merchants—who have twisted the depression's tail and made hard times serve them well. There are merchants growing rich out of falling prices. The big cities have these master tradesmen who pack their stores daily with bargain buyers. So have the smaller communities, the big and little towns and villages. They are uncommon, yet not rare, and their alchemy has changed, for them, the period of depression to a period of prosperity. This is the ship which is as little known as Mr. Jones' vessel is familiar on depression waters.

There is, as typical, a small merchant in a Maryland town just outside of Washington, who romps off daily with the lion's share of the small community's trade. He has beaten the chains—undersells them, in fact. He has learned that buyers flock where prices are lowest and quality is good. So he buys for cash daily, from hand to mouth, and sells out for cash swiftly and completely at small profit before he buys again. No drop in prices ever catches him with a stock on which to take a loss; he's making more money now than ever before.

Usually, however, the circle is of the vicious variety. Prices fall, demand slackens, workers are laid off, and prices then fall again. And so, around and around and around, like a merry-go-round in a graveyard, the nation's business goes. In time, after the movement has spent itself, the frightened riders will scramble off the economic merry-go-round and scamper—to redoubled work.

In time; how much time? That is the question. How far must prices fall before the movement spends itself—before the buying rush begins? Nobody knows; we only know how far prices *have* fallen. When most of us conclude that prices have fallen all they are going to fall, then the buying rush will start.

There are reliable indexes, available to all, showing how prices have dropped since the trend began. Take



foodstuffs, for instance; the drop has been swifter and further there than in any other line. There are accurate figures gathered by the federal government to illustrate what the drop in retail prices has meant to everybody; to food-loving New York City and its millions, for instance.

In 1929 the federal census bureau canvassed every one of the 42,947 food stores in New York City and jotted down every dollars' worth of food sold during the year. Those stores handled virtually every mouthful that went down New York's throat. The sum of all their sales ran to the outstanding total of $1,088,000,000. Verily, that was a mountain of food.

If you had gone into those same shops last August and bought the same volume of food, pound for pound with 1929 and quality to match quality, you could have had it all wrapped up for $833,000,000. In less than two years New York's victuals got cheaper to the tune of nearly $255,000,000 a year.

A hefty drop of 23.4 per cent, as the federal bureau of labor statistics measures it, it is not the sort of thing to encourage the food stores of New York to go out and give large orders for fresh supplies. A whale of a drop in value, the biggest ever recorded officially in any eighteen months, it has been also an effective brake on trade revival. Who wants to take a loss of $255,000,000? Not the average New York merchant.

What's going to happen when those falling prices quit falling and begin to rise? One can picture it—in New York City. What a scramble there will be to enter orders at 28 cents, let's say, today, when the certainty is that the same goods will be 30 cents tomorrow! In New York City, did we say? It is not local; the condition is nationwide. Only in magnitude does it vary in nearly forty thousand villages, towns, and cities.

Thus has the dollar come to grace in the food shops of Manhattan and the city's other boroughs. Even so, it has failed to attain there the full esteem accorded it elsewhere. The bureau's figures show that between December, 1929 (when retail prices were highest for the then current movement), and June, 1931 (the latest date for which a cost-of-living computation has been made for the entire country), the food dollar rose more than one third in buying power, or, to be exact, 33½ per cent.

World's Work asked the bureau of labor statistics to measure similarly the buying power of other dollars spent for living necessities. The bureau generously has done this, and in several respects its finding is surprising. The showing, in trade parlance, is spotty: here prices grope to valleys almost bottomless, there they level off to a broad plateau, and yonder they cling tenaciously to the old-time heights.

Soft coal, beset by woes detailed in World's Work [Hard Times for Soft Coal, April, 1931] shows the greatest decline, next to food, in price. Its drop in price of 11½ per cent, however, is but little more than one third of the decline in foodstuffs. Why is it that the soft-coal dollar has failed to attain the new buying power of the food dollar? The answer, leading coal men say, lies chiefly in two words: freight rates. On a vast tonnage of soft coal the price paid per ton for haulage from mine to market is greater than the price paid per ton for the coal at the mine tipple. Bituminous coal, they say, is utterly deflated; its miners toil for a hard, scant wage (and labor represents 70 per cent of its cost), but freight rates have not come down a mill a ton.

Soft coal's twin, anthracite, is price-buoyed by the same force. And what other reasons, if any, has anthracite for remaining high when flour, eggs, butter, meats, and all foodstuffs have fallen?

A fair question, according to the Anthracite Institute, where hard coal's problems are analyzed by practical coal men. Unlowered freight rates play their part; the second major factor is the wage scale. Anthracite has not torpedoed its labor. The union rules in Pennsylvania's hard-coal fields; the dollar there today buys no more, no less, of labor than it fetched in '29. And so it will continue until 1935, by grace of a pact between miners and operators signed in 1930.

Taxes Hold Rents Up

Fairly surprising is the modest price decline in clothing, as shown by the bureau's returns. In June, 1931, clothing prices had dropped, on the average, but 9 per cent below the figures of December, 1929. Last June's clothing dollar did the work of a dollar and a dime of eighteen months before. No more, the bureau says. Why?

"The figures are stale," is the explanation given by one clothing factor. "Also, certain kinds of clothing have declined much more than 9 per cent. Further, the greatest decline in clothing occurred this fall, after the bureau's deadline of June."

Men's clothing at, roundly, from two thirds to three fourths of the 1929 values, came on the market last fall, but in volume less than a late summer pick-up forecast. Retailers here, as in foodstuffs, were reported fearful of further declines; they were ordering from hand to mouth. One big store, overstocked, cut ruthlessly and surprised its force by selling out in a few days; similarly lower prices have been the lure to big sales elsewhere. An unexpected development is the attitude of so-called rich customers; they now favor prices they would have sniffed at two years ago. Wage cuts along the line from the raw material have helped somewhat; retailers' profits, as a rule, are cut to the point where they provide little more than running expenses to keep stores going. Fear rules in the realm of raiment.

Much the same story is told about furniture and other house furnishings. Furnishings, the bureau estimates, have dropped 10.5 per cent on the average during the eighteen-month period. Here again fear of further cuts has reduced buying.

Rents, on the average, remain near the old level. The official figures show an average decline of 6.5 per cent; the June dollar went as far as $1.07 would go eighteen months before. Why haven't rents come down more?

Taxes, for one thing, is the general answer. Taxes amount to almost one sixth of the revenues received in rent, and taxes have not come down. Heating costs remain virtually unaltered; there has been little reduction in caretaker outlays; insurance has not dropped; and tight money has whirled mortgage rates upward. Real-estate men and banks point to frozen first and second mortgages; on huge totals even the interest is not paid regularly. This is a prime factor in making mortgage money hard to get and interest high.

Again, the claim is made that the bureau's figures are not typical of conditions today, that rents have fallen materially since last June.

But real estate, which is not included in the bureau's survey, has fallen far in many sections. So say the real-estate men, finding the market heavy from fear of still further declines. The condition is spotty. Farm lands were to be had for a song last summer; in the fall there was a flurry of buying, and prices stiffened here and there. Residential properties, less in demand, have been sold time without number for from 75 to 85 per cent of reproduction costs. In some localities real estate has fallen as much as 25 per cent; in others, notably Washington, D. C., values have been sustained at or near the 1929 figures.

The smallest decline of all is shown for electric power for household use. The bureau places the price decline at 3 per cent in eighteen months. Power men advance numerous reasons for this, including operating and fixed charges which have changed practically not at all. But back of those factors is recent history indicative of the idea that depressions may come and go without altering appreciably the course of the electric-light dollar.

Briefly, it is this: the trend of electric-light prices has been steadily downward for years. A dollar today, the bureau shows, buys more lighting current by nearly 25 per cent than it did as far back as 1913. This is true of nothing else in the bureau's listing. The reduction was in full swing when the depression came along; it had been in full swing for years; the depression made practically no difference.

All in all, the cost-of-living dollar, distributed over the necessities of life, had the buying power last June of $1.141 as compared with the dollar of December, 1929, the bureau finds. All items of living cost had dropped an average of 12.1 per cent, or nearly one eighth. Such is the finding, bounded by a food-price decline of 25.1 per cent on the one hand and electric-light decline of 3 per cent on the other.

When the Fear Factor Fades!

Throughout the latter part of 1931 most indexes continued to move off, with only some rises apparent in October and early November. At the time of writing, figures on the cost-of-living dollar are not available beyond the middle of November; but it is significant, however, that up to that time there had been a further falling off in retail food averages of less than one per cent—a negligible amount—over the figure that stood at the end of June. Thus the food dollar throughout most of 1931 fetched as much as $1.33⅓ in December, 1929. And so on down the list.

The bureau shows that. But there is another factor that no bureau, no computation, can ever show. It cannot be put in cold figures, yet it has been a factor of no mean importance in the price decline that has stretched over so many months. Certainly it is a prime retarding factor in trade revival. That factor is fear—fear that prices will dip still lower.

At some point in the recession that fear will vanish. Sellers and buyers all over the country will conclude that the end of the decline has come. It may be that this conclusion will be reached suddenly, between the rising and the setting sun; it may be slow of formation; it may be reached before this article sees print. When it is reached, whatever the time, the tide of trade will rise again.

A Study by PAUL OUTERBRIDGE, JR.

"How Long, O Lord?"

Keystone View

Left—A. L. Gates, president at 33 of the New York Trust Company, arrived by way of Yale and the Navy from Iowa.

Right—S. Parker Gilbert. When only 32 he was sent to Germany (in 1924) as the agent-general for reparations.

Keystone View

Youth *at the* Top—

ON A CRISP November afternoon fifteen years ago the Yale and Harvard football teams were fighting it out in the Bowl at New Haven. It was in the heyday of the late Percy Haughton, who had put the Indian sign on the Eli's for seven long years.

Suddenly a Harvard man fumbled, and "Di" Gates, the Yale tackle, picked up the ball and beat it for the goal line. He was brought down just short of a touchdown, but in a moment Yale had pushed it over and won her first Harvard victory since 1909. After the game Gates was chosen captain for the next season.

His team never took the field, however, for long before the following fall we were at war and Artemus L. Gates was flying with the famous Yale Unit founded by F. Trubee Davison.

Sent abroad as a lieutenant commander, he was put in charge of the naval air station at Dunkirk, a post closer to the enemy than any other on the North Sea. For his feat in pulling a British bomber's crew out of the sea under withering German fire, he was decorated by the French and British. The deed also won from Admiral Sims a recommendation for the Congressional Medal of Honor—one of three recommendations made by Sims for his force of eighty thousand. A little later Gates was brought down and taken prisoner only an instant after he had flung a cigarette into his plane's gas tank to keep it out of enemy hands.

Trying time and again to escape, he finally succeeded in getting within exactly three paces of the Swiss border when he was caught once more "just short of a touchdown."

But this time the Armistice delivered the final punch and he came home to enter the banking field and marry Alice Davison (Trubee's sister), who had done her own bit by organizing a woman's wireless unit in 1916.

Before he was thirty-four Gates was president of the New York Trust Company, one of the most important of New York's all-important banks.

THROUGH the glass partition which is all that separates J. P. Morgan from the profane presence of any visiting bank messenger, a casual caller at the firm's office one summer day in 1930 observed a group of partners gathered at the fireplace beneath the portrait of Mr. Morgan's mighty parent. They were crowding round a young man by Mr. Morgan's side and shaking his hand as if in congratulation. The caller went away, harboring suspicions which were confirmed on the first day of 1931, when it was announced that Seymour Parker Gilbert, the congratulated young man, had become at thirty-eight a partner in the greatest banking house in the world.

"Meteoric" is the tried and true word to use in describing such careers as Mr. Gilbert's. The son of a state legislator of Bloomfield, N. J., he graduated from grammar school with honors at eleven, from high school ditto at fifteen, from Rutgers at nineteen and Harvard Law at twenty-three, ditto ditto. After that he entered the offices of Cravath & Henderson (now Cravath, Henderson & De Gersdorff), a New York law firm engaged, among other things, in the railroad financing problems of Kuhn, Loeb & Co., the bankers.

When the first Liberty Loan campaign began, Secretary of the Treasury McAdoo secured the aid of Russell Leffingwell, of Cravath & Henderson, and Mr. Leffingwell, who has since joined Morgan's himself, took along young Gilbert to help with the details. Those loan campaigns matured young Gilbert in a hurry. In June, 1920, he became an assistant

Blank and Stoller

Left—Knowlton L. Ames, Jr. At 38 he has been for a year the owner and successful manager of the Chicago Evening Post.

Right—E. L. Cord. Jobless 12 years ago, he's now president at 37 of a $125,000,000 corporation controlling 14 companies.

Gates, Gilbert, Ames, *and* Cord

secretary of the treasury; a year later, when the Republicans took hold, he was made undersecretary, ranked only by Mr. Mellon himself.

Two years after that he returned to Cravath & Henderson, but the inkwell on his new desk had scarcely been filled before the authors of the Dawes plan hustled him over to Germany to act as agent general for reparations, "the greatest receivership in the world." He was thirty-two then and had managed to sandwich enough time in between appointments to marry Louise Ross Todd of Louisville, Ky., but only after his return from Germany in the summer of 1930 could he really begin his belated honeymoon.

"Meteoric" is the word to use.

HE READS aloud something Joseph Pulitzer once wrote: "A newspaper is made by the heart of its owner."

It is his creed—a creed learned in a fighting experience which made him, at thirty-seven, despite terrific opposition, owner and publisher of a major Chicago newspaper.

Knowlton L. Ames, Jr., is better known in Chicago as "Junior," to distinguish him from "Snake" Ames, his father. "Snake" was one of the greatest football players Princeton ever produced. Junior also played football at Princeton, for four grim years.

"I had the great advantage," he says tersely, "of playing on losing teams."

In 1919, after serving in France as a first lieutenant with the 122nd Field Artillery, Junior went to work for the American Steel Foundries. The elder Ames, as something of an adventure, started the Chicago Journal of Commerce on October 14, 1920. Out of sheer curiosity, Junior used to haunt a restaurant where the then publisher and K. L. Ames, Sr., met after the paper was off the press each night. He absorbed the atmosphere. When the first publisher resigned, Junior said:

"Dad, let me take a crack at it."

"What do you know about running a newspaper?"

"Nothing."

"All right."

He went in. In two and a half years he had the paper in the black.

Came a stormy interlude in 1928. Father and son disagreed. A resignation was asked, given. For a year and a half, Junior was out of the publishing business. Part of this time he was president of the Yellow Cab Company, the remainder of the time he was with the Barron publications. In the fall of 1930 he attempted a merger by the sale of the Chicago Journal of Commerce to the Wall Street Journal, affiliated with the Barron group. His father offered a counter proposition: to come back and run the Journal again. Junior did so.

Early last year the Chicago Evening Post went into the hands of a receiver. "I'll buy it," Junior decided. To his father he said, "Do you want to come in with a joint-management arrangement?"

"No."

"Then I'll run it myself."

Within ten days the advertising of every big State Street department store was reinstated, on a larger volume basis. The owner retrenched. Moved into cheaper quarters. Tightened his belt.

"Anybody who works with me," says he, "works—or somebody else does."

The paper is his meat and drink. He is on the job twelve or fourteen hours a day, simply because he *lives* it. And "a newspaper is made by the heart of its owner."

(Continued on Page 76)

The Shotgun Marriage

That brought the iron business and coal-tar chemistry together is here illustrated by the history of the Interlake Iron Corporation, largest merchant-iron producer in the world

By FREDERICK W. VAN FLEET

BLAST FURNACE fires which once cast their glow over every industrial community, as the ores of the neighborhood were smelted into iron for local needs, have been extinguished. The small blast furnace stands idle or has been dismantled, because it can no longer serve. Iron making has definitely passed into the realm of great plants and huge investments and no longer offers opportunity for individual effort or local enterprise.

From a sentimental viewpoint the picture is disappointing. Iron making is the oldest industry in the world's written history. Tubal Cain, recorded as a seventh-generation grandson of Adam, was the first iron maker; and from his time much of the glamour of the most romantic periods of the world's history has clustered around the brawny workmen who smelted the iron and refined it into steel for swords and armor, for shields and plowshares, and useful articles of commerce.

The early centuries of American history told a story of progress along industrial lines based largely on the production of iron. Iron making was a basic industry in every industrial community. So the realization that its individual character is entirely gone comes as something of a shock.

Here is an industrial revolution which has destroyed many small units, it is true; but in their place it has created an entirely new industry concerned with innumerable products based on coal-tar chemicals now recovered in iron making.

This has been a revolution of science. From the manufacture of smelting coke, once but an intermediary step in iron making, science has produced a whole new line of by-products of great value. Two results have followed. Coal-tar chemistry and iron making have become one business, with requirements of size, equipment, and capital far beyond the simpler business of making iron; and the added income sources of that business have produced vastly cheaper iron, which in turn has brought the great boon of cheaper steel.

William Rittase

Pig Iron's Antecedents

Coal-tar chemistry began as an independent business too, and at one period coal-tar chemists were making coke for its chemical products and hunting markets for the coke, while iron makers were making coke for smelting fuel and letting the chemicals go up in smoke. How these two businesses grew together to their inevitable union is one of the most romantic chapters of American business.

As sometimes happens, the story of the industry is told in the history of one company. Interlake Iron Corporation, largest producer of merchant pig iron in the world, goes back fifty years on one side to the man who brought coal-tar chemistry to this country, while on the other hand its corporate antecedents were sturdy old blast-furnace companies and the ore producers which fed their glowing furnaces.

Rowland Hazard was a leading business man of his community fifty years ago. He had wide property interests and he administered them with keen judgment. He was not in the iron business, though it was one of the basic industries of his native Rhode Island. As for the chemical business, neither he nor others of his day knew much about it. Yet he was destined to become head of a great chemical enterprise and through it to exert an influence on iron which would change the whole course of that industry.

The Hazards came to Rhode Island from England in the 1600's. Well-to-do, they acquired from the British crown a tract of land fronting five miles on Narragansett Bay and extending inland fifteen miles. This family estate was handed down, by the British law of entail, from eldest son to eldest son, always a Rowland

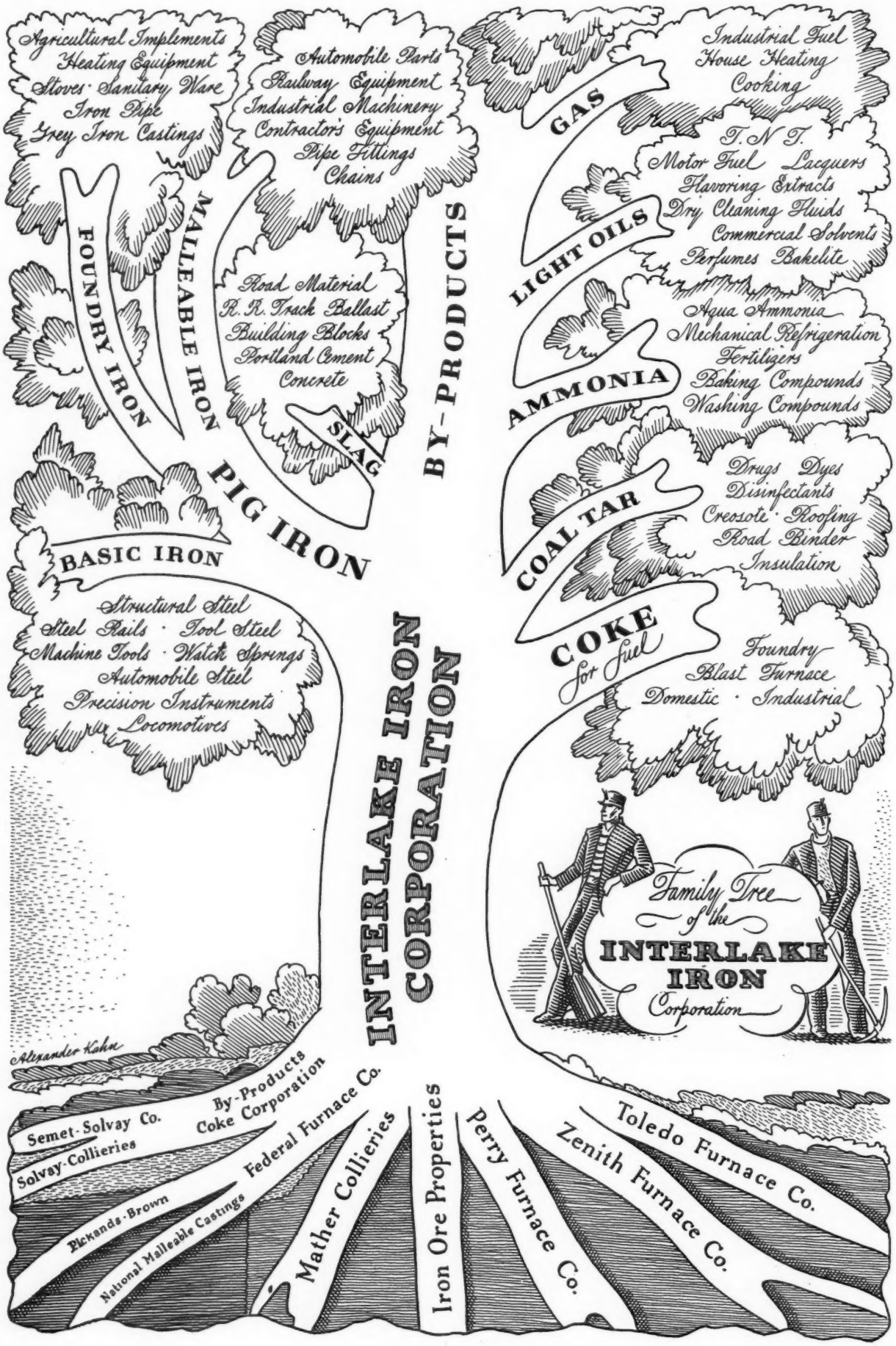
William Rittase

This huge bucket scoops a ten-ton load from the coal pile at each descent, transferring it to conveyors which carry it to the coke ovens.

Hazard. When the Revolution severed ties with the mother country the British tradition was so strong that the family, in council, agreed to continue the system of entail.

As the young colonies grew the successive heads of the Hazard family sold off parts of the ancestral estate and reinvested the money in other ventures, for the benefit of the family. There were docks and shipping enterprises involving trade with distant countries. There were even slave ships, in the days when many of the leading families owned human property. Yet the Hazards became abolitionists years before slavery became an issue in the country.

In 1880, when Rowland Hazard, first of the dynasty to influence the future destiny of Interlake, was head of the family, the Hazard property included zinc mines in the West and a large tract of land at Syracuse, N. Y., under which were great veins of salt brine


Agricultural Implements
Heating Equipment
Stoves · Sanitary Ware
Iron Pipe
Grey Iron Castings
Automobile Parts
Railway Equipment
Industrial Machinery
Contractor's Equipment
Pipe Fittings
Chains
FOUNDRY IRON
MALLEABLE IRON
Road Material
R. R. Track Ballast
Building Blocks
Portland Cement
Concrete
SLAG
PIG IRON
BY-PRODUCTS
GAS
Industrial Fuel
House Heating
Cooking
LIGHT OILS
T. N. T.
Motor Fuel
Lacquers
Flavoring Extracts
Dry Cleaning Fluids
Commercial Solvents
Perfumes
Bakelite
AMMONIA
Aqua Ammonia
Mechanical Refrigeration
Fertilizers
Baking Compounds
Washing Compounds
COAL TAR
Drugs
Dyes
Disinfectants
Creosote · Roofing
Road Binder
Insulation
COKE
for fuel
Foundry
Blast Furnace
Domestic · Industrial
BASIC IRON
Structural Steel
Steel Rails · Tool Steel
Machine Tools · Watch Springs
Automobile Steel
Precision Instruments
Locomotives
INTERLAKE IRON CORPORATION
Family Tree of the INTERLAKE IRON Corporation
Alexander Kahn
Semet-Solvay Co.
Solvay-Collieries
By-Products Coke Corporation
Pickands-Brown
National Malleable Castings
Federal Furnace Co.
Mather Collieries
Iron Ore Properties
Perry Furnace Co.
Zenith Furnace Co.
Toledo Furnace Co.

never worked because no practical process of utilization was known. In that year an engineer named Cogswell, employed in the Hazard mines, attended a meeting of a national society of engineers. There he heard with great interest the reading of a paper which described in detail how Armand Solvay, a Belgian chemist, had invented a process for making soda ash and caustic soda from salt brine by the use of ammonia, and how Solvay's brother-in-law Semet, a Frenchman, had contributed a process for obtaining ammonia in the coking of coal.

The Syracuse brine deposits came immediately to Cogswell's mind, and he hastened to his employer with the suggestion that American rights to the invention be secured for the establishment of a chemical works at Syracuse. Mr. Hazard sent him to Europe to negotiate for the patents. He was not successful, but he came back so enthusiastic over what he had seen of the workings of the process that Mr. Hazard took the next steamer for Europe to see what he could do. He found Solvay and Semet obdurate against parting with any part of their invention outright. Finally he worked out a deal for the establishment of an American Solvay Process Company, in which Solvay and Semet processes and Hazard capital and management should join their forces.

William Rittase

A small chemical plant and battery of coke ovens were established at Syracuse. The sale of coke proving difficult in Syracuse, another coke plant was established in Pennsylvania, and the company developed the plan of enlarging the Syracuse chemical plant as the business grew but adding coke plants in different parts of the country. It was more practical to make the coke where it could be sold and ship the chemicals to Syracuse than it would have been to distribute all the coke from any central point. The Semet-Solvay Company, a wholly owned subsidiary, was formed for the engineering, construction, and operation of the coke plants. Later many of these coke plants grew into full chemical units, so that when, after the World War, Solvay finally joined the great Allied Chemical & Dye merger, Solvay plants were numerous and important.

In the first twenty years of its operations the Solvay Process Company and its subsidiaries, the Semet-Solvay Company and the Solvay Collieries, grew in spectacular fashion. Plants multiplied, profits were large, and there grew up around Mr. Hazard a considerable organization of men who were authorities on coke and its by-products. Soon there was voiced a desire on the part of these engineers and executives for a share in the vast business they were helping to create.

Finally Mr. Hazard agreed to the formation of a new company in which Semet-Solvay should hold control, with the balance of the stock allotted to members of the organization. His son, Rowland G. Hazard, who had by that time become active head of the business, accordingly organized the By-Products Coke Corporation. Chicago was picked as a favorable location, and the younger Mr. Hazard himself went there and selected a site of 390 acres in South Chicago, on which was built, in 1905, the new corporation's plant.

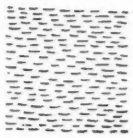
Selection of the site for this new plant was significant. Chicago was picked because it offered a market for gas and coke for domestic purposes, and Mr. Hazard was influenced in his choice of the actual site because it lay on the Calumet River immediately across from the spot where the Federal Furnace Company (in which the National Malleable Castings Company, Pickands, Mather & Company, and Pickands, Brown & Company were principal owners), was just putting into operation the first of its blast furnaces. In its battle for coke sales Semet-Solvay had found the iron men good customers.

In 1883, while the Solvay Process Company was still in its infancy, Samuel Mather (whose father, Samuel L. Mather, was one of the pioneers in the development of the wonderfully rich iron ore deposits of the Lake Superior region) had joined forces with Col. J. S. Pickands and Jay C. Morse to form Pickands, Mather & Company, which was to become one of the greatest ore mining, handling, and shipping concerns in the world.

In its earlier years the activities of this company were confined to the acquisition and operation of extensive iron-ore properties and the building of docks and ships in which the ore was handled and transported to the lower Lakes. But the iron business grew rapidly and soon Pickands, Mather & Company were reaching out into blast furnaces and steel works, where the ore they mined and shipped was turned into pig iron and steel, and into the coal fields, from which coal to make furnace coke and to furnish return cargoes for their ore ships was obtained.

These holdings have grown ever wider and wider, until in the present day it is almost impossible to touch any important part of the great iron and steel industry of the country without finding there some Pickands, Mather interest. Among these holdings, as the years went on, were iron furnaces at Erie, Pa., Toledo, Ohio, Duluth, Minn., and part ownership in the Federal Furnace Company, Chicago neighbor of the By-Products Coke Corporation plant built by the Semet-Solvay Company.

Relations between these Chicago businesses, which were separated only by the width of the Calumet



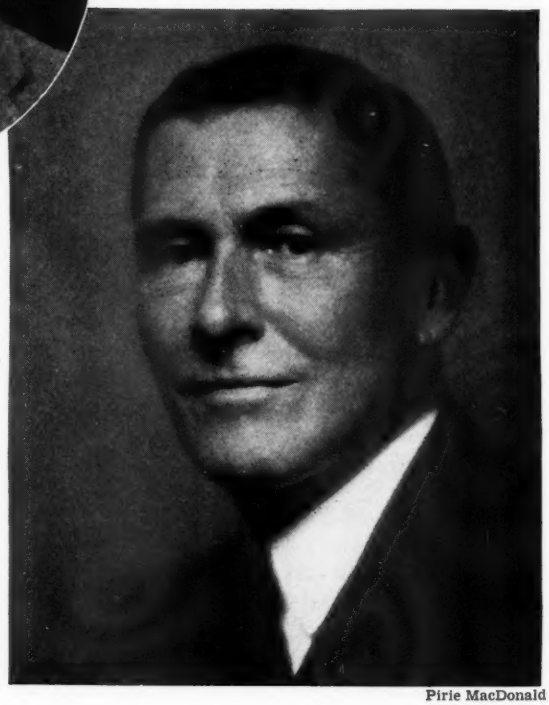
Hazard-Solvay Soil

Pickands-Brown and Malleable Castings Soil

Pickands-Mather Soil

Three generations of the family whose history is interwoven with that of the Interlake Iron Corporation. Grandfather Rowland G. Hazard (at left) organized the By-Products Coke Corporation and went to Chicago to pick a likely site for its plant (built in 1904–05). Son Rowland Hazard, then just out of Yale, went thence to work his way up the iron ladder. Today he sits on the Interlake Iron board. Grandson Rowland Gibson Hazard (aged fourteen) looks forward to carrying on the Hazard iron tradition in future years.

Elton Hoyt, II, vice-president of Interlake Iron and a Pickands, Mather partner, inherited from his father his interest in the affairs of ore, iron, and steel. More recently acquired interests include his chairmanship of the Yale alumni board and his riding to hounds on his Cleveland estate.



Pirie MacDonald

Blank & Stoller

Henry G. Dalton is chairman of Interlake's board and a senior partner of Pickands, Mather. He went to work for the latter company in 1883 as its first employee. Ten years later he was the first man to be admitted to partnership by the original founders, Pickands, Mather, Morse.

River, continued to grow more cordial for ten years, until in 1915 they were merged, By-Products Coke Corporation absorbing Federal Furnace and paying for it in By-Products stock.

This merger brought iron men into the councils of the By-Products Coke Corporation for the first time. Management of the company remained in the hands of the Solvay organization and the legal offices of the company remained in Syracuse. But a group had come into the company which knew iron and its importance as the Syracuse men never could.

Leading these men who were for the first time interesting themselves in chemicals was Samuel Mather, director of the United States Steel Corporation from its early years. He had built, on the basis of his father's pioneer work in Lake Superior iron mining, a mighty ore and shipping business; and he yielded to no man in his thorough knowledge of iron, from ore to metal.

In the group were Henry G. Dalton, picked from a railway dock freight house by Mr. Mather, who recognized in him an ability which was to make him managing partner of the firm and a leading iron and steel man of the country; Henry S. Pickands, son of Col. James Pickands, who had been one of the original partners and who had more than proved his right to his iron heritage; bluff Harry Coulby, who as a young lad fresh from England had walked from New York to Cleveland to get his first job and whose principal interest was the ships which transported the ore from Lake Superior to feed the lower Lakes furnaces; Elton Hoyt, II, who besides being the son of a great steel lawyer who had helped guide many of the Mather enterprises was ironwise in his own right; and others of similar stripe.

Blank & Stoller

Clifford D. Caldwell, by personal preference a hunter of big game, by force of circumstances president of Interlake Iron Corporation and a director of many enterprises, including Continental Ill. Bank and Trust Co. of Chicago.

Another figure who had entered the company shortly before the absorption of the Federal Furnace property, was to have a stirring part in its future. C. D. Caldwell, a coal man from Tennessee, had been brought into the commercial end of the business in 1914, to undertake the task of broadening the coke markets of the company. He was made vice-president. He knew something about iron because he had been concerned with some small furnace properties as a young man, and he knew the merchandising of fuel.

After the absorption of the blast-furnace property the interest of the Solvay heads in the Chicago company began to weaken. Possibly they thought that with the new interests the project was in excellent hands, or perhaps it was because the generations which had created the Solvay business and started the By-Products Coke Corporation was passing from active business. At any rate the Hazards sold the greater part of their stock in the Chicago concern to Syracuse people who knew the value of the Hazard trademark.

During the war the By-Products Coke Corporation, in common with other industrial concerns, was driven to the limit of its capacity. Sales greatly increased, and handsome earnings were made and divided in dividends. No replacement of machinery or equipment was attempted, with a result that when the postwar recession came the plant was largely obsolete and nearly worn out, with large inventories held on a falling market and no cash reserves.

The fall of 1920 is remembered by business men with much the same feelings which move them when they think of the fall of 1929. Business was going backward fast, wholesale prices were on the toboggan, unemployment was increasing, stock-market values were tumbling. By-Products Coke Corporation stock was no exception. With $100 par and a history that included sales at more than $600 it was selling at $30 a share or less.

At the annual meeting of 1921 in Syracuse the situation was tense. Some of the directors did not think the company could be pulled through and were in favor of liquidating. Engineers estimated that it would take $21,000,000 to put the plant into condition. The Syracuse officers wanted to step out and let the Western men, who were the iron men, take over the management. Mr. Caldwell had been expected to succeed to the presidency some day but had no thought of doing so then. But when the meeting was over Mr. Caldwell was president, the iron men had rallied strongly behind him, and the Solvay men—at their own desire—were out, except for small amounts of stock they still held.

A storm of protest arose from the rank and file of Syracuse stockholders. Regardless of the explanation and assurances of the Solvay officers, nothing could make the stockholders in Syracuse believe that the iron men had not robbed the Solvay company of its interest in the Chicago concern. A minority stockholders' protective committee was formed and bitter charges were hurled.

Cards on the Table

It was a trying situation for a new management, even had there been no other difficulties to face. Mr. Caldwell met it in a characteristically straightforward manner. He made enough of an investigation to establish in his own mind the belief that the Syracuse stockholders honestly feared they would not be able to keep in touch with their investments with the Hazard interests out of the management. Then he invited every local stockholder to meet him at one of the Syracuse hotels for lunch.

At this meeting Mr. Caldwell made a frank statement

of the affairs of the company. He dissected its troubles, told how the change in management came to be made, and outlined the basis of his hopes for the future. Then he disarmed their opposition by offering to put a member of their protective committee on the board. A great cheer went up at that, until a member of the group asked:

"How can we know that even this will keep us fully informed?"

Getting Back Into the Black

"Well," replied Mr. Caldwell, "our regular monthly meeting is on the last Thursday of the month. Your representative will be in that meeting. I suggest that you have a regular meeting of your group two or three days later each month and let him report to you fully. Anyhow, we will see that he knows everything, and the system you follow to learn what he knows is up to you."

Needless to say, the dissenting stockholders speedily ceased their opposition.

Taking the presidency when he did, Mr. Caldwell had on his hands a run-down and obsolete plant, a large inventory which had to be written down drastically, and no money to work with. But he had courage and ability, and the next few years saw a dramatic fight to rehabilitate the plant out of its own resources and put it back in the money-earning class.

During the war a coal property in Illinois had been bought, to supply coal when the government was taking the output of the better mines the company was interested in. Mr. Caldwell sold this property for more than the company had paid for it. From that and the returns from disposition of a stock holding in the company's treasury he managed to get about $4,000,000, and with that and the earnings he completely rehabilitated the plant, accomplishing the task for $15,000,000 instead of the $21,000,000 which the engineers had estimated would be needed.

One of the greatest tasks of the reorganization was getting the working force into efficient shape. The plant had been a feudal institution. No man who worked for it any length of time was ever discharged. As a result a working force of eleven hundred was on the payroll when the new management took hold. When the reorganization was over, six hundred men were getting out the same amount of product without any new machinery.

In 1929 a general consolidation of all the coke and iron properties in which Pickands, Mather & Company were interested was arranged. The name of the By-Products Coke Corporation was changed to Interlake Iron Corporation with an issue of two million shares of no-par stock; and as of January 1, 1930, the Interlake Iron Corporation absorbed the Perry Furnace Company at Erie, the Toledo Furnace Company at Toledo, and the Zenith Furnace Company at Duluth. Mr. Caldwell became president of the new corporation and H. G. Dalton, managing partner of the great ore firm, became chairman of the board of directors. Elton Hoyt, II, another Pickands, Mather partner, was made first vice-president.

A Vast Empire of Iron

With these furnace plants there was acquired large interest in the Dalton Ore Company, owning vast reserves of every variety of high-grade ore, and in the Mather Collieries, which added to the coal holdings the company already had in the Kanawha, Pocahontas, and Black Mountain districts.

Out of these units has been made an impressive organization. With an annual capacity of 1,200,000 gross tons of pig iron, it is the largest merchant-iron producer in the world. In addition to iron it has a capacity of 2,000,000 net tons of coke per year; 21,490,000,000 cubic feet of gas; and quantities of ammonia, coal tar, creosote, and the light oil from which benzol products are made which are staggering to the layman.

Each step in the history of this great iron company illustrates the evolution of the iron industry. Coke became established as a necessity in the making of iron. Then the union of coke and iron companies reduced the cost of iron by about 30 per cent, and the blast furnace not having the advantage of the by-product coke earning could not serve the public need. Industrial advance developed the demand for pig iron to exact specifications, and ore control became necessary to the iron master. The (*Continued on Page 73*)

William Rittase

The trim Robert Hobson, tied to the dock, is one of the sixty freighters of the Interlake fleet. Behind the vessel rise the stacks of the iron plant.

A Day at Dayton

With Air Corps Pioneers

By F. Trubee Davison
Assistant Secretary of War for Aviation

Underwood & Underwood

If one spent a day at the Army airport at Dayton one would see a body of experts not devising new means of death but trying out and perfecting ideas aimed toward the advancement of the art of flying. A few of their peacetime accomplishments are described herein

AN AIRPLANE, carrying a newly developed type of camera, climbed to an altitude of twenty thousand feet above Crater Lake, Oregon. At that cold and rarefied height the photographer clicked his shutter. His picture, when developed, showed a view of mountains and valleys many miles beyond the range of human vision. The camera eye had even seen and recorded Mount Ranier, Washington, almost three hundred miles distant.

Another Army plane, carrying an observer, flew over "enemy" territory during field maneuvers in California. The observer sketched on a map the positions of opposing forces; then, by means of a recently developed radio device, he transmitted his marked chart to a distant ground station. A few minutes later it had been reproduced on a receiving apparatus before the eyes of the high command at Crissy Field, sixty miles away.

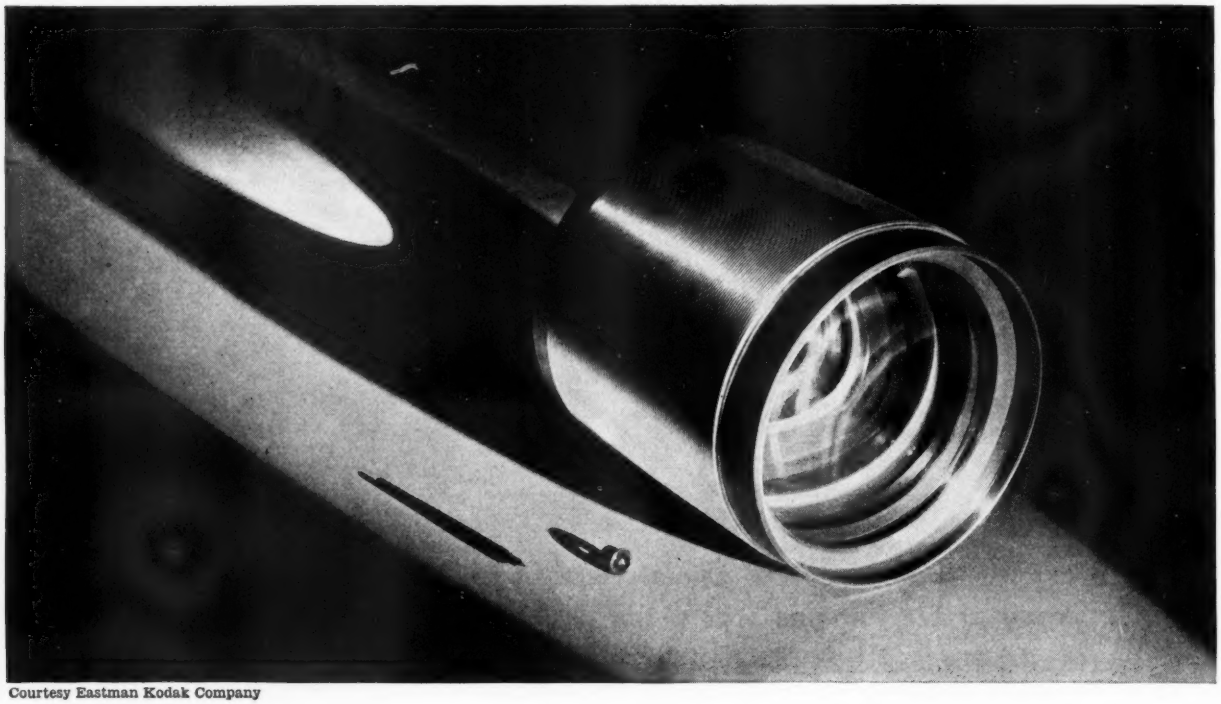
The speed of the airplane itself is slow compared with the rapid changes not only in the design, performance, and operation of aircraft, but in the uses to which they may be devoted. Such improvements are brought forth in many countries and in many laboratories, among them the Materiel Division of the Army Air Corps near Dayton, Ohio, which stands almost on the site where the Wright brothers concluded the experiments which led to practical flight. Here the developments described above, and many others, have been or are being evolved and tested, either as original Air Corps projects or in coöperation with other branches of the Army or industrial laboratories engaged in research.

Many of these ideas are now in successful operation, others are emerging from the experimental incubators.

Follow the Sound Waves Back Home

A number of passengers were taken aloft on separate flights in a plane equipped with the newest type of sonic altimeter nicknamed by pilots the "peanut whistle." Its purpose is to measure by sound waves the distance of an airplane from objects and obstructions immediately beneath it, instead of its altitude above sea level, as the older altimeters do. Merely by listening to its tones both pilots and passengers were able to know with astonishing accuracy their distance from the ground.

A pilot flying at night listened through his standard aviation radio set to various commercial stations. Finally he heard one broadcast emanating from the city he wanted to reach. Then, by maneuvering his plane and utilizing a device known as the homing



Courtesy Eastman Kodak Company

A large and a small lens for aerial cameras. The ordinary desk pen shows the size. Long-range photography accomplished by filtering the infra-red rays is the latest development in aerial science. By this method and from a height of 20,000 feet, objects two hundred miles away have been photographed. Such objects of course cannot be seen by the human eye at that distance but the mechanical eye sees them with a good degree of clearness.

loop, he followed the silent carrier wave direct to the source of the broadcast. Equipped with this loop a pilot may thus utilize any broadcasting station, official or commercial, as an invisible highway to his destination through the most uncertain weather.

A photographer, flying at night over Soldiers' Field, Chicago, at such an altitude that he could not be seen from below, made photographs which showed clearly every maneuver of the exercises being held there. Others under similar conditions snapped night photographs of cities which were distinct enough to show even traffic and pedestrians. Still others flying at tremendous heights made, in single exposures, daylight photographs covering areas of more than two hundred square miles.

These represent but a few of the developments which research work is bringing to practical realization at Dayton and elsewhere. A system of modulated lights, synchronized with photoelectric cells aboard planes, which hold the pilot true to his course despite storm or fog; an "automatic pilot" which guides and stabilizes a plane over transcontinental courses or across the seas; and two-way radio, which establishes conversation not only between airplane and ground but between plane and plane, are others.

Camera Sees What Man Cannot

The extraordinary results of long-distance camera work from the air are due to discoveries leading to the use of infra-red filters in aerial photography. Red light is at one end of the spectrum. Blue light, used in ordinary photography, is at the other end. Red light, it is now known, penetrates haze and water vapors with greater ease than does blue light; and by using proper filters of orange or red, blue light is prevented from reaching the photographic negative. In other words, air and water particles don't "take," and the image of the subject appears on the negative without the veil of haze which ordinarily shrouds a distant object. When a photographer made the first long-distance shot of Mount Rainier his pilot could not understand why, long after the mountain had disappeared from sight, he continued to aim his lens apparently at nothing!

The possibilities of long-distance camera work, in both peace and war, are tremendous. It permits industrial or other surveys, particularly of inaccessible regions, at a minimum of time and expense. Used at sea, it could show the approach of a hostile fleet long before the enemy was within the range of even the strongest telescope. Again, foliage cut from a forest to hide a battery of guns would stand revealed as camouflage by an aerial camera properly equipped with color filters, which would expose the slight change in shade caused by the loss of moisture of the dead limbs.

So much for distance; similar strides have been made in other aspects of photography. Photographs may be snapped and developed in the air and the finished pictures dropped to the ground seven minutes after the shutter has clicked. Still more remarkable, it is now possible to make a negative, develop it in the airplane, and transmit it by radio while the plane is still in flight. The transmission of a picture up

to four by eight inches in size takes about two minutes. The picture (or message) is placed in a revolving cylinder in the airplane and subjected to an intense beam of light. Through light-sensitive cells the apparatus then transforms light impulses into electrical impulses which, when converted into a different form of electricity, effect the decomposition of a solution applied to a moving band of paper on the receiving apparatus miles away.

An airplane so equipped in wartime would not have to waste time, after its observers had photographed or sketched an enemy position, returning to the base with information. Until driven down or destroyed it could continue to send reports of every hostile movement. Even were the plane eventually grounded, the information gathered would not be lost. To the high command behind the lines the swift receipt of such information from planes scattered over a long front, or even behind enemy lines, would be almost as advantageous as watching with its own eyes every shifting detail of battle.

During the World War, troop movements and strategic changes were usually made under cover of night, when darkness assured secrecy. But night photography threatens to destroy even that possibility of protection—the vigilant eye of the camera would detect such movements as easily as if they were made in broad daylight. With the aid of the new two billion candlepower flashlight bomb, the observer may work at night over enemy lines and with greater freedom than if the sun were shining. The combined headlights of nine million more cars than the twenty-six million in the United States would be required to equal the intensity of the one-second flash.

Right—Speed! This air picture of Leavenworth was developed in the air and seven minutes later dropped to the ground. A photographic sending station put it on the air and twenty minutes after the original exposure, receiving stations in New York and San Francisco reproduced it as shown.

A night picture of the tall office buildings of lower Manhattan. Army research made possible such remarkable pictures. Light for them is provided by exploding a large bomb of flash powder several hundred feet above the ground and by synchronizing the flash with the camera.

Photos Courtesy U. S. Army Air Corps

Night photography should prove invaluable in peacetime—in flood-relief activities, for instance, where the disaster is sudden and widespread, and where rescue work depends upon quick and accurate surveys.

At Dayton, in connection with research in high-altitude photography, study has been made of flying conditions in the upper air. The combat ceiling for present-day pursuit planes is some thirty thousand feet. At this altitude pilots breathe through rubber tubes attached to oxygen tanks; if the supply of oxygen fails, pilots suffer a distress much like seasickness but far more severe. In addition, the plane tends to wallow through the thin medium and it is harder to control. Intense cold, which may reach eighty degrees below zero, adds further to the pilots' discomfort.

Experts prophesy that the day of airtight cockpits, designed to maintain sea-level air pressure within, will come. In this respect, too, the Army Air Corps will aid commercial aviation, for it has long been held that at high altitudes there are prevailing winds of great velocity which would accelerate transcontinental and transoceanic journeys.

Superchargers which feed sea-level atmosphere into the carburetor supply the answer to motor efficiency at high altitudes. Controllable-pitch propellers, by which the pilot is enabled to make the blades function at maximum efficiency under all conditions, are also being perfected.

As to that robotlike device, the "automatic pilot," an Air Corps bomber so equipped recently flew in formation with other bombers while the pilot sat with folded arms and the controls moved back and forth as if gripped in phantom fingers. It is conceivable that a method will be devised whereby a transport plane will require a pilot's hands only for the purpose of taking off and landing. While in the air, an "automatic pilot" will hold the plane at a given altitude in level flight, while an "automatic navigator" will keep its nose toward the objective and correct for varying winds. Thus the pilot can devote his full time and attention to studying instruments and to checking the weather reports received by radio; and airplane schedules will be as dependable as those of trains to-day.

Oddly enough, the very development of devices designed to assure safety in the most hazardous of weather has created a new threat—a pilot flying "blind" may be required to watch so many instruments that he cannot devote enough attention to actual operation of his plane. A pilot can concentrate on only one thing at a time, and there may be moments when even split-second unawareness of danger signals would prove dangerous. Hence experiments so to consolidate and regroup the instruments that the slightest deviation of any one of them from its normal reading position will convey an instantaneous and urgent message to the pilot.

Keeping in Touch With the Office

Two-way radio communication holds equally interesting prospects. Even as now a traveler at sea may phone to persons ashore, so, it is safe to predict, will the busy executive journeying by plane be able to talk with home and office. In recent test flights, commanders flying at great altitude and high speed were enabled to report to and receive orders from ground officers, as well as to direct the pilots in their own and other squadrons within a radius of twenty miles—all by voice and as clearly and easily as if they were in one room. Size and weight of equipment have been so reduced that no sacrifice of military load or performance is entailed, and the simplicity of operation places very little extra burden on the pilot. Another advantage is that the aerial can be fastened on the plane, thus eliminating the cumbersome and frequently dangerous floating antennas.

Such are the problems the Army Air Corps is busied with. In addition to its own work, from time to time it forms temporary partnerships with private concerns or individuals for specialized research along various lines. Naturally, to withhold the fruits of those efforts from the aviation industry would be short-sighted. Hence, data not of a strictly military nature are generally turned over to the aviation industry as a whole, or, in the case of a new device brought to perfection through the help of the Materiel Division, to the company originating it.

Military efficiency, then, is not the sole concern of the Army Air Corps; its twofold aim is to expedite the progress of aviation for expansion of commerce in times of peace and for defense in times of war.

Ewing Galloway

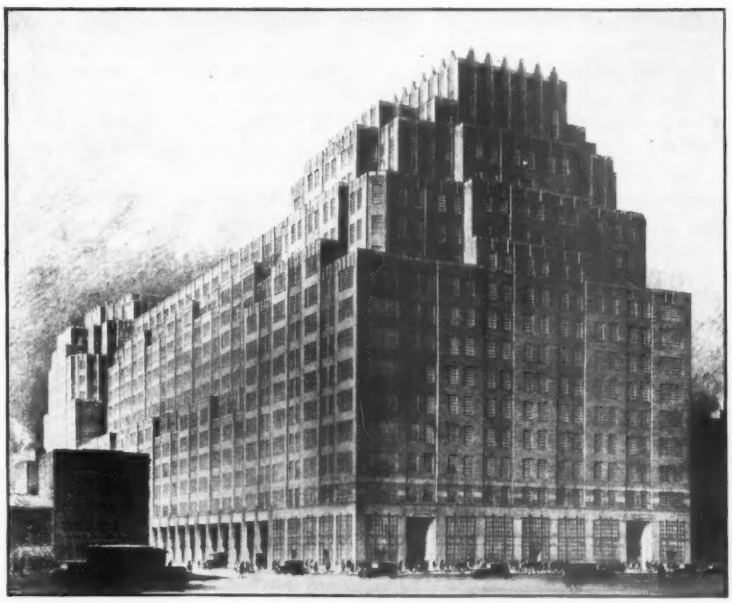
An autogyro, invention of the Spaniard Cierva, flying over the Pitcairn field on Easton Road, near Philadelphia. These ships are recognized as marking the greatest single change in the art of flying since the days of the Wrights.

"PUT 'N TAKE"

New York's New Terminal Helps to Master the Metropolis

By DONALD WILHELM

Author of "The World's Largest Store," "The Story of Steel," "The Book of Metals," etc.



OF COURSE we Americans didn't invent speed, the dream of the ages, yet we admit that we *have* done our part to make it a glorious success. We are, in fact, the fastest-moving folk on earth.

We like to say that speed is the essence of things in America.

We pay extra, on trains, to ride faster. Each new car or truck we buy is faster than the last. We like to ride in airplanes that travel like projectiles, and on elevators that shoot us up and down, whereas our forefathers were afraid to get off the ground.

We *like* speed! We like to have radios in our cars to help obliterate distance; have more radios than all the rest of the world combined; more cars even than telephones; more telephones than all the rest of the world, and send and receive more telegrams that, a generation ago, we were afraid to open. And even if we do our Christmas shopping early, still we like to send our presents back home late because we know how good our postal service is; know that the letters that we mail, high in a sky-scraper say, will flit like white birds on wing down a chute and go —by airway, highway or railway, straight as homing pigeons to many destinations. Therefore we like the motto of our letter carriers: "Neither snow, nor rain, nor gloom of night, stays these couriers from the swift completion of their appointed rounds."

But it's another story when we are waiting—and one's whole family or organization or a distant customer's whole organization is waiting—for the city transport and delivery of one or many less-than-carload—"L.C.L."—shipments to and through a city like Manhattan. Then we are prone to wonder why our trucks, operating in a big city at the average cost of *six cents a minute*, are so often "stayed" and why city trucking like city parking is so often anything but sweet sorrow.

But city truck drivers, sometimes men of few words, are not as a rule good at explanation. Yet they fully know *in terms of minutes* what traffic means, and how fast the minutes go when they have to stop to line up and wait their turn to pick up or to dump L.C.L. freight at one or a dozen totally unrelated freight terminals. Also they know what L.C.L. freight looks like, "acts" like when handled—being anything from a piano to a baby carriage, from a 16-foot sailboat to a radio, an out-board motor or a grandfather's chair; from a bag of apples to a hunk of machinery weighing as much as four tons; from a sewing machine to a bird house, a bicycle to a glassed-in secretary or a crate of window sash marked "Fragile. Handle With Care," and anything from a case of bottled goods to a lively critter destined for a zoo. Also they know that the average weight of L.C.L. shipments is *250 pounds*, that whole mountains of such shipments must be moved each day and approximately 16,000,000 must be moved during each normal year in Manhattan alone, if our Metropolis is to keep up with its busy life.

Still, in friendly moments, we are apt to boast to our truck drivers that in our own cars we have on occasion ventured into, around or through the six New England states all in a summer's day! Also we are apt to boast, especially to foreign visitors, that we Americans travel not only faster but farther, day by day and year by year, by railroad, by bus, by automobile and by plane, than any other people on this earth. And when folk from back home come to visit us in New York City then, naturally enough, we talk big about speed—about speed in construction, about buildings going up almost overnight,—about 15 miles of new subway construction the needed contribution of every year—about speed of transit horizontally and up and down—about all kinds of speed—speed—speed!

The folk from back home usually listen, spellbound.

But if they knew what authorities in transportation know, they could until now promptly put boastful New Yorkers, as well as many other big-towners, in their proper places.

They could say, for instance:

"Well, we can travel faster by truck or car in our towns than you can. Here in Manhattan, as tests have shown, the working-day speed of traffic on many typical streets often approximates only *four to five miles an hour!*"

They could say, too:

"We've got only *one* freight station in our town, just as we have only one post office. All of our outgoing and incoming L.C.L. shipments are cleared through it. Therefore our truck drivers can carry a full load from our factories to the station and back, as a rule. But there are only a few cities in which that can be done. That's why the Interstate Commerce Commission has said 'the essential defect of the country's railroad system is the great cost of terminal handling as compared with the economy of hauling trains.' The fact is, *in many instances it takes more time to move L.C.L. freight a few city miles than it takes to haul it many miles by railroad; in many instances costs more; in some instances costs more than manufacture*

itself, is therefore a big item in the final retail cost of many commodities. And particularly has all this been true of the Port of New York, as the Interstate Commerce Commission said, notably here on Manhattan, an island.

"Here, as everybody knows, there are eleven railroads. Each one of these has one or more L.C.L. terminals in Manhattan, which it serves, at the flat Port railroad rate, with lighters or spurs carrying freight to and from railheads. Accordingly, any Manhattan consignee, shipper or distributor has to have his truck or trucks call, to dump or to pick up L.C.L. freight, not at merely one terminal as a rule but perhaps at a dozen separate and more or less isolated terminals. That takes time and money, with city trucking costs and traffic steadily increasing!"

It hasn't helped much for New Yorkers to be able to boast that Manhattan is at the very heart of by all odds and every measurement the richest and most productive manufacturing and residential area in the world.

"Sure!" the small-towner has often answered. "There's no substitute for this market if, as and when some plan is worked out so that a Manhattan consignee, distributor or manufacturer can solve the trucking and L.C.L. problem."

That came to be a problem, for a large number of reasons—natural reasons, competitive reasons, reasons of growth, many more, as we shall see—is, in fact, full of meaning to us all. To quote the Interstate Commerce Commission, "It affects not only New York itself but practically the entire industrial situation in the United States, as the excessive cost of doing business at this port affects all of the industries whose products pass through it or come to it for distribution. *The problem is, therefore, a National problem.*"

These reasons accounted for the establishment of the Port of New York Authority ten years ago—the selfsame "Authority" that in the one busy decade since its birth has established itself as the prime mover and court of last resort in matters of primary surface transportation in the Port District. Also, as if to prove it has the "know-how," it has established itself as one of the greatest engineering organizations in existence by its operation of the Holland Vehicular Tunnels *under* the Hudson, which are unique; by its completion well ahead of schedule of the $60,000,000 George Washington Bridge *over* the Hudson, the longest suspension bridge in the world and the Bayonne Bridge, connecting Bayonne and Staten Island, the longest single arch in the world. Add its Goethals Bridge and its Outerbridge Crossing, over the Arthur Kill—two cantilever bridges that connect Staten Island and New Jersey, the first at Elizabeth, the second at Perth Amboy. Add, to boot, that not only do these achievements greatly facilitate the movement of traffic *in* the Port District and *around* Manhattan but they represent the careful investment of nearly $200,000,000 raised by the Port Authority with its own bonds, without increase of taxation or of the indebtedness of either New York or New Jersey.

Now add that the very reasons which accounted for the establishment of the Port Authority now account for the building, squarely in the heart of Manhattan (in the exceptionally large block bounded by Eighth and Ninth avenues, West Fifteenth and West Sixteenth streets) of Union Inland Terminal No. 1, the first of three such terminals and marts soon to be built with others yet to come at various strategic points throughout the Port of New York District.

II. ABOUT INLAND TERMINAL NO. 1

UNION INLAND TERMINAL NO. 1 represents the first central attempt to provide order, directness and smooth-working in the handling of Manhattan L.C.L. freight, which entails fully three-fourths of the trucking miles and hours given to the handling of all Manhattan rail freight.

It represents proof that there are many problems mastered better by coöperative effort of all factors concerned than by the effort of single communities or states. In other words, it represents a plan, or rather a unit in the vast and progressive so-called "Comprehensive Plan" of mastering a metropolis, made possible by a treaty, duly approved by Congress and the first of its kind and purpose, between the States of New York and New Jersey, each of which, like all of the communities affected, was powerless adequately to meet its port and surface transportation problem alone. In short, the Port of New York Authority was established to function as it has functioned and for the first time to view the Port of New York District as an entity faced with a common problem, called the handling of freight, along with many problems. This "Port District," which is *not* identical with the Metropolitan District used by the Bureau of Census, comprehends nearly 1500 square miles, 700 miles of waterfront, approximately 9,000,000 people, more industries than there are in Chicago, Philadelphia, St. Louis and Cleveland combined and nearly 200 communities, including New York City, Jersey City, Newark, Bayonne, Elizabeth and others that make it far and away the most productive and richest area and market in the world. The Port of New York Authority is directly concerned with betterment of transportation throughout *all* of this District. Its Union Inland Terminal No. 1 therefore represents only a unit in its "Comprehensive Plan."

It also represents the first fully coöperative effort by *all* the railroads serving this District to master the freight problems of the largest Port in the world. All the freight from the South and Middle West en route to or from New England must cross the Hudson, and the great bulk of it passes through the Port of New York District. It is estimated that more than 75,000,000 tons of freight is, in a normal year, moved into or out of the Port by rail and 40,000,000 by water and that the loaded freight cars that enter and leave the Port during a typical year would fill eight tracks across the Continent, all the way from New York to San Francisco. No wonder was it, then, that the eleven railroads which serve the Port of New York and have whole billions invested in *many* terminals never wholly satisfactory as freight terminals, in lighters, in carfloats, tugs and other equipment, at last entered into coöperation with one another and with the "Port Authority" and, after four years of continuous persuasion for the first time in history, on the last day of December, 1930, signed a common agreement. Inland Terminal No. 1 is the result of that agreement, in accordance with which all these carriers will deliver to, and take away, all L.C.L. freight clearing through Union Inland Terminal No. 1 or other union freight stations like it yet to be built. In other words, these railroads have undertaken to carry L.C.L. shipments destined to and from Union Terminal No. 1 by truck or trailer—on rubber instead of rails—on and after August 1, 1932 *at the flat New York rate.*

By these plans, this immense structure has come swiftly to take form, to represent among other things a means by which city traffic and the trucking costs of Manhattan shippers and consignees can be lightened. And, obviously, traffic in the center of the Port District needs to be lightened, notably in Manhattan; is year-by-year being made slower no matter its possibilities of power and speed. More than 2,000,000 people enter Manhattan every typical business day, while between 1920 and 1930 the number of motor vehicles in New York City increased nearly 400 per cent, must go on increasing even though in 1930 there were 596,126 cars and 119,576 trucks. Moreover, the over-all increase of vehicles registered in New Jersey between 1920 and 1930 was 374 per cent; that in Westchester County, neighbor to the north, was 460 per cent; and that in Nassau County, neighbor to the east, was 650

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per cent! Obviously, Manhattan traffic needs to be lightened if in a few more years it is to move at all! And no less obviously such union inland terminals as No. 1 are highly significant to all automotive owners since it has been estimated that such terminals will reduce L.C.L. trucking one half. Moreover, such terminals represent a reason for rejoicing by truck owners since they insist that the only time a truck is fully efficient is when, fully loaded, it is "rolling."

Union Terminal No. 1 is also a step toward better utilization of both Manhattan and Jersey pier space, along with greater possibility for more 1,000-foot piers important to the docking of the largest liners and important to provision for war as well as peace. In other words, this terminal, with the others like it yet to be built, constitutes a step toward relinquishment by the railroads of a large part of all pier facilities at the Port now used for handling rail freight, therefore is a step toward the lessening of harbor congestion, itself an increasing problem. It will reduce terminal costs by making possible a reduction of harbor floatage at a time when approximately 65 per cent of all Port freight facilities exclusive of interchange or through freight is lightered. It will reduce the time required for the "turn-around" of railroad freight cars, which now averages approximately 3½ days between incoming and outgoing "break-up" yards. Also it will reduce waste movement in handling cars, which arises largely from excess of inbound over outbound freight at some terminals or excess of outbound over inbound freight at others—waste movement that has accounted for approximately 7 per cent of the total cost of Port terminal operations during recent years.

In the new plan to go into effect on August 1, 1932, incoming L.C.L. freight will, on its arrival at railheads, be shifted from railroad cars to automotive equipment and be hauled by the railroads, in large part at night, via ferries landing hard by the new terminal, or via the Holland Vehicular Tunnel, whose New York terminus is less than a mile away. Then, via a wide one-way ramp leading down to the huge basement of the new building from the West Sixteenth Street side, these freight "shuttles" will be taken to the south side of a platform 665 feet long, 105 feet wide, with a net area of 64,000 square feet. There they will come to rest in one of 57 *unloading* berths where trucks will be unloaded (or tractors uncoupled) and routed over to one of 57 *loading* berths at the opposite side of this great platform to be loaded and sent on their way back to railheads.

Thus a complete cycle of railroad operation will be achieved while incoming merchandise is unloaded and "platformed" alphabetically with freight from other railroads, and while much else is going on. For not only is this cavernous basement union freight terminal equipped with a mobile equipment repair shop, a valuable package room, employees' lunch-room, locker-rooms and many other appointments but it has twelve elevators serving all the floors above its 14-foot ceiling.

On this street floor will be found another big, busy area at the center of which will be a great platform—an "island" platform 480 x 156 feet occupying 71,000 square feet with 102 berths, including four side-loading berths, along with ample cranes, scales, elevators and other handling facilities—for service to Manhattan shippers and consignees.

To this platform trucks working westwardly on Fifteenth Street will come with loads of merchandise for *all* railroads, and take the first unoccupied "outward-bound" berths, unload and receive receipts. Then, moving on via a by-pass to Sixteenth Street and easterly back toward Eighth Avenue, their drivers will pay any freight bills due on merchandise about to be received by them and "pick up" any or all inbound boxes, crates or other items that have been classified in the basement and been sent up to the street floor, and go their way.

Thus another complete cycle—from shipper to consignee—will be completed, in accordance with all the dictates of speed, common-sense and economy.

For all railroads serving Manhattan south of Fifty-ninth Street there will be *one* central L.C.L. freight station, and savings in time and money worth noting. And for each Manhattan truck handling L.C.L. freight there will be, for all shippers, consignees and distributors south of Fifty-ninth Street, only *one* "port of call"—*one* "dump," *one* "pick-up," in *one* central and perfectly appointed terminal, instead of many terminals.

But by no means is this all that is to be said about this great structure—a structure not without precedent yet new in kind and location and in many other ways unique.

III. A COMMERCIAL MART AND OFFICE BUILDING

UNION INLAND TERMINAL NO. 1 is unique in that it is at the exact strategic center of the richest and most productive market in the world.

It is unique also in that it is only a few blocks from the spacious piers of many trans-Atlantic steamship lines, is only a little way from the Pennsylvania Station, only a few minutes' ride from the Grand Central Station, is within sight of the Great White Way, within easy reach of many of the world's largest and finest hotels, skyscrapers, retail and manufacturing districts. In addition, it is advantageously located with reference to Long Island bridges as well as the Holland Vehicular Tunnel. The Ninth Avenue Elevated passes it. Without going out of doors one can reach all of the subway lines traversing Manhattan. And within walking distance of it are the Greenwich Village and other desirable residential sections.

Yet all this is only part of the picture.

For not only is Union Terminal No. 1 designed to handle one-third of all the present L.C.L. incoming and outgoing Manhattan L.C.L. freight south of Fifty-ninth Street with yet another terminal like it soon to be built in the Bronx, another in Brooklyn and others at im-

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portant points throughout the Port District, but it is designed to serve a great commercial mart and office building as well. Here, in other words, above the terminal facilities leased to the railroads, will rise a great structure designed to be a self-contained manufacturing and distribution center as well as a 15-story office building to be known as the Port Authority Building since the "Port Authority" itself will occupy the four top floors.

Although it inter-communicates with the commercial floors, this office building is designed to be a separate unit, served by eight high-speed, self-levelling elevators from its own lobby and arcade. On its street floor one will also find a branch post office especially equipped for commercial needs and foreign business, a branch bank, a drug store, cigar store, newsstand, barber shop, display and sample rooms and all other appointments that its thousands of occupants may within reason reside, including a lunch room and, no doubt, a restaurant of distinction, possibly on the roof.

Moreover, quite apart from the Port Authority Office Building, a huge segment of fifteen floors of this immense structure will be devoted to lofts and light manufacturing.

Here, on 1,842,000 square feet of floor space, in due course will be found, with its own entrances from Eighth and Ninth Avenues, its own special elevators and other special services such as gas for manufacturing purposes, ample live steam and plentiful light and power connections, a merchandising and manufacturing community in which even the smallest firm will enjoy all the privileges of the largest along with some not to be enjoyed in any other building in existence.

You see, it wasn't sufficient that tenants here, whether manufacturers, jobbers, shippers or distributors, should have under their feet, in the basement and on the first floor, what will be for them an almost automatic L.C.L. freight terminal, since their incoming L.C.L. freight shipments will practically be delivered at their very doors and their outgoing L.C.L. freight will be taken away.

It wasn't sufficient that, so far as either incoming or outgoing L.C.L. shipments are concerned, tenants here will need to pay *no trucking charges whatever*.

And it wasn't sufficient that tenants here should be provided with a building of reinforced concrete flat slab construction with every provision for good light and low insurance rates, with wet-sprinklered 15-foot ceilings, floors designed to carry 200 pounds to the square foot, plentiful electrical outlets including four at the sides of each pillar, plentiful power conduits and power at advantageous rates, drinking-water founts, plentiful toilets and rest rooms, telephone connections, all customary and some unique appointments. Thus the plans of the commercial or manufacturing section provide four high-speed passenger elevators at the western entrance, with provision for four more if necessary. Both on the western and eastern ends there will be six elevators, two of which are combination freight and passenger elevators.

In other words, at each end of the commercial unit, on the street floor, a private one-way truck service entrance is provided. For light small individual deliveries of city commodities eight truck berths are placed at a truck-level service platform where merchandise is to be unloaded and handled via six elevators that also handle all rail package freight to and from the freight terminal downstairs. In addition, for all truck loads, including carload freight and steamship deliveries, there will be two large truck elevators at each end of the commercial units —four giant elevators designed to carry trucks or combined trucks and trailers weighing 40,000 pounds—big elevators worth a story in themselves!

Such elevators will be used to carry full truck cargoes to the various floors, or therefrom. On each floor cargoes will be backed into private parking areas berthing six trucks, adjoining the platforms used by other elevators for handling rail freight. And so large are these pits, a truck can be manœuvred to use either of the two elevators in each bank. In other words, with such unique elevator service tenants having as little as one-fourth of a floor space will have the equivalent of a private shipping terminal of their own with the great advantage of being able to handle *all* their own freight, whether metropolitan or rail, without the cost and delay of several or more handlings. They will also have complete charge of their own merchandise from their own doors to the street. And in addition to having all the advantage of ordinary street privileges they can load their trucks at night so that their trucks can store 100 per cent and start rolling at the opening of business in the morning.

IV. THE LAST WORD

THIS great structure represents much more than its plans and appointments suggest.

It represents speed. It operates to do away with the situation in which manufacturers and railroads strive with all speed to make and to transport goods in order, as it were, to save time lost at city terminals. Obviously there is not now anywhere in Manhattan any plan or place that will so well apply the sayings, "Time is the essence of things in America," and, "Time *is* money,"—particularly "truck time!"

It represents the only step now practicable looking to lightening of L.C.L. truckage in Manhattan, not to mention street and harbor traffic.

It represents an economy such as may result in profit on one hand or successful competition on the other hand, for numberless manufacturers, shippers and consignees who may be hard put these days to survive at all. And by the same token it represents the promise of lower distribution costs—the notorious neck of the bottle for both manufacturers and distributors and the public itself.

It represents an important step in mastering the Metropolis, in rebuilding and rearranging it to the end that it may the better serve as a place in which to live as well as a place in which to make money.

And more than all this, Union Terminal No. 1 and the great enterprise to which it is fundamental, is proof that if, in the geographical sense, Manhattan is an island, in another larger, economic sense, it is less an island than it used to be, will in the end be a part of the "mainland" itself.

For smart business folk, then, since their working days are usually all too short at best, this great new structure is not merely in all ways a landmark but it represents a new way to net profits or, in any case, a new way and place in which to do business with city transportation costs at the irreducible minimum and rent money invested where it will do the most good.

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About Appendicitis

In the presence of unrelieved abdominal pain

1~Give no food, water or medicine
2~*Never give laxatives*
3~Call your Doctor

Recently a letter came to us from a mother who had lost a fine, strong boy of twelve from acute appendicitis. She wrote, "If I had run across just one article on appendicitis I feel sure we would not have had this sorrow. An advertisement of yours would save many, many lives. Please give this your earnest consideration."

Because her request voices a widespread desire to know what to do when appendicitis attacks swiftly, this announcement is published.

The deathrate from appendicitis in the United States has steadily increased during the past ten years. But it will be reduced and reduced rapidly when people learn what to do and particularly what not to do in case of an attack.

The symptoms of appendicitis vary. But almost always, continued pain and tenderness in the abdomen are the first indications of an acutely inflamed appendix.

There are two most important things to remember in event of an attack of acute appendicitis:

First:—Never use a laxative to relieve acute abdominal pain. If the pain means appendicitis, a laxative, instead of relieving the condition, is likely to spread the inflammation, to cause the appendix to burst or to induce peritonitis.

Second:—Send for your doctor immediately. In making his diagnosis he may decide that no harm will come from taking time to make a blood test to confirm his opinion. He may say that the attack can be relieved without operating. Or he may order an operation in the shortest possible time.

Performed without delay, by an expert, an operation for appendicitis is almost always successful. Be sure to consult an experienced and skilful surgeon because many needless operations have been occasioned by incorrect diagnosis.

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World's Work Index of Business

THE composite weather vane of American business compiled by World's Work and based upon twenty-three statistical series representing every phase of production, distribution, and finance showed a slight rise during the month of November. The changes that have occurred are lacking in decisiveness and fall far short of that assurance of recovery for which all eyes are anxiously scanning the business horizon. When the history of this depression is written these months will doubtless be called the dark and uncertain hours before recovery.

As we glance down the record of the particular series which together form the final single lifeline of business, we find two that are seriously ill.

New financing at the end of the month was 17 per cent of the volume which is the present computed normal. The explanation for this is not difficult to find. With positive losses of enormous proportions assailing the investor his bump of caution has swollen. As an indication of the magnitude of these losses on his direct investment we may cite the record of commercial failures for the present year with an indication of aggregate liabilities approximating two billion dollars. The average recovery on such liabilities is about eight cents on the dollar.

In the second place, he is confronted with the evaporation of his equities in going concerns. It is a tenable estimate that the aggregate decline in the value of all securities held by American investors during the past two years has exceeded fifty billion dollars.

In the third place, the investor is permeated with the fear of further losses and the possibility of unexpected demands upon his resources. He seeks to remain liquid and is content for the time being to forgo income on his capital in order to enjoy perfect freedom in its immediate use. In the face of these obstacles any attempt to launch an enterprise with an appeal for capital in the open market is likely to be fatal.

Another depressing component is automobile production. Output for November was the lowest reached at any time during the past decade. This is disturbing for a number of reasons. It is obviously a direct blow to a great basic industry, involving the loss of all the gains made during ten years of growth. Furthermore, the interrelations with other industries such as steel, rubber, glass, and the nonferrous metals accentuates the contagion of its malaise.

In both fields, security sales and automobile production, an excellent technical position has been created which will enable them to spring forward with the turn in the tide and take full advantage of any change in sentiment. In the case of automobiles we may cite the fact that production for the current year has been approximately eight hundred thousand units less than the estimated replacement requirements for the same period and that new cars in the hands of dealers are at the lowest point in years.

The slight improvement in the index for the month is without significance as far as any major turn is concerned.

The outstanding event of the month, from the point of view of general interest, is the final confession of the Farm Board regarding the scope and cost of its operations. This body was created by the Farm Marketing Act signed June 15, 1929. Its existence covers a period of two years; the statement to which we refer is its second annual report, elaborated at certain vital points under pressure of senatorial interrogation. A generous national legislature placed $500,000,000 at the disposal of the Board, with rather broad injunctions whose general purport, as stated in the preamble of the act, was to raise agriculture to a parity with industry. This half billion dollars was taken from a federal treasury two thirds of whose income is derived from one quarter of one per cent of our population concentrated in a few of our wealthier states. The fact is cited as a partial explanation of the delay in rendering an explicit accounting of this king's ransom.

Certain highlights disclose the nature and "success" of the Board's efforts without further comment:

The Board purchased 329,641,052 bu. of wheat at an average price of 81.97 cents per bu. and sold 139,985,865 bu. at an average price of 64.7 cents.

It owns 1,310,789 bales of cotton, bought at approximately 18 cents a pound, whose present market value is slightly more than 6 cents a pound. Indirectly it holds an additional 2,100,000 bales whose profit and loss status is obscure.

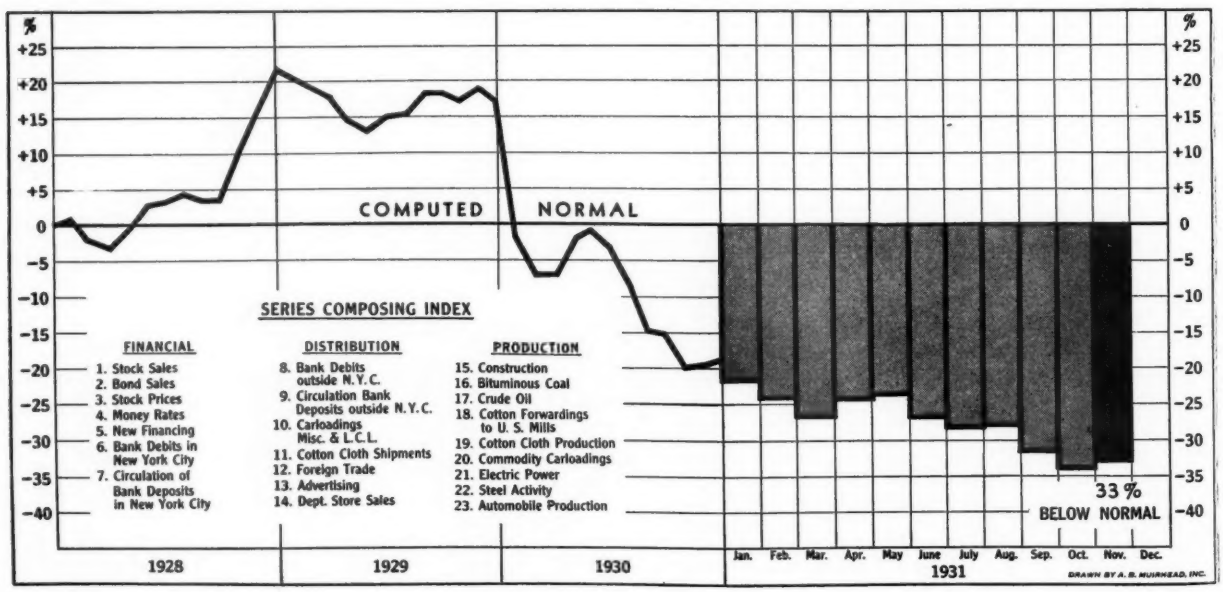
The Board has a balance of $45,000,000.

The estimated loss on operations to date is $185,000,000.

During the period of its existence the price of cotton has dropped from 18 to 6 cents a pound and wheat from a dollar to 60 cents a bushel.

The expectation of continued government support has prevented farmers from making those reductions in acreage which

(*Continued on Page 71*)



(*Continued from Page 70*)

a free market would have forced and has therefore delayed remedial adjustments.

In spite of the record farm organizations are rallying to the defense of the Board, and there is every likelihood that it will continue its existence and may even receive added power.

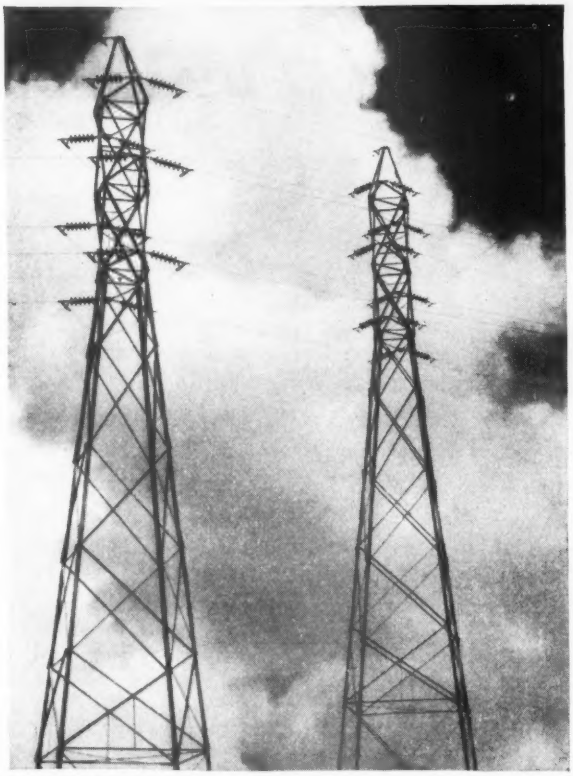
A committee of Federal Reserve officials has formulated a set of proposals for lifting the face of the Federal Reserve System. There is a growing conviction that the system has failed to function during the current crisis—a conviction which the report of the aforementioned board of strategy does not modify. The report recommends certain changes of a technical character which will be of benefit to the banks; none of them touches the vital defects in the reserve-bank structure as revealed by the present emergency.

The recommendation of principal interest is that the reserves of the member banks be made flexible in order to give the Board better control of credit during periods of speculative activity. The function of a bank reserve, it may be recalled, is to enable a bank to meet unexpected withdrawals of deposits. It was never intended as an instrument to effectuate the control of bank credit by a central bureau.

The record of central-bank control in recent years hardly inspires any hopes of success with this added power. The discount rate of the Federal Reserve banks during 1928 and 1929 was employed to check speculation and in 1930 and 1931 to bring about a revival in business. The "success" of this experiment is so vivid as to make any comments thereon superfluous.

During the last week in November the copper producers held extended discussions whose purpose was to secure coöperation which would bring the runaway accumulation of copper stocks and fast-fading copper prices under control. The public was not permitted to share in the confidence of the participants, although the impression "escaped" at the conclusion of the conference that an agreement had been reached.

The difficulties of the copper producers raise the question whether artificial control of production and prices, be it private or governmental, can ever be successful. With governmental control, politics make the acceptance of the conditions of successful control impossible. In the case of private agreements the necessity for taking care of the inefficient producer, the willingness of the able producers to accept unmerited profits, and the provocation of new competitors all undermine the program of stabilization. Much of the present distress of the copper producers is due to the establishment of eighteen-cent copper at a time when most of them were able to produce it at eight cents a pound.



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$6.00 Preferred Stock Quarterly Dividend No. 97 of $1.50 per share, payable October 15, 1931, to stockholders of record September 30, 1931.

. . . . . .

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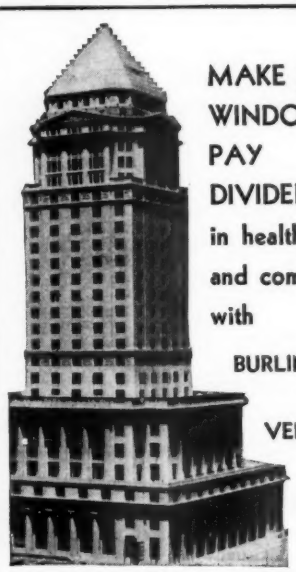

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Policy Town

(*Continued from Page 38*)

even now employ some 21,500 men and women, and in flush times, more than 32,000. Their yearly payroll of $33,000,000 is 30 per cent greater than that of the underwriters.

Hartford is hardly more renowned as the insurance capital than as the home of the famous Colt's Patent Fire Arms Company, whose more pacific products now include dishwashers, washing machines, electric switches, sheet packing, and molded buttons. From Colonel Samuel Colt's armory were graduated the superskilled mechanics Francis A. Pratt and Amos Whitney, whose firm (now a division of the Niles-Bement-Pond Company) leads the world in the manufacture of intricate precision machines, tools, and gauges. It was Pratt & Whitney who standardized the inch in this country and, extending their conquest, machined their products to a millionth of that measure. Out of their accuracy grew the Pratt & Whitney Aircraft Company, a subsidiary now of the United Aircraft & Transportation Company, manufacturing Wasp and Hornet engines that power 90 per cent of the planes flown on American chartered airways. Another division of United Aircraft, the Chance Vought Corporation, builds its Corsair planes in an adjoining factory.

It was a Pratt & Whitney workman, William Gray, who in 1887 invented the convenient telephone pay station now turned out in great quantities for the A. T. & T. by the Gray Telephone Pay Station Company in Hartford. There also is the largest typewriter factory in the world, Underwood's, and the second largest, Royal's. In Hartford originates the courteous, ingratiating "Fuller Brush man;" he is one of the 2,400 house-to-house salesmen working for Alfred C. Fuller, a former street-car conductor who now makes in his Hartford plant and sells all over the world twelve million dollars' worth of household brushes a year. There are others: the Arrow, Hart & Hegeman Company, largest makers of electric switches; Taylor & Fenn, veteran ironmongers; Billings & Spencer, skilled drop forgers; the Capewell Horse (shoe) Nail Company; the Skayef Ball Bearing Company, the Austin Organ Company, etc.

This concentration of industry has wrought great changes in Hartford. Once so homogeneous that it was as English as Hertfordshire, the city now has a foreign-born population of 44,500, or 27.1 per cent of its total; 15,500 of the number are yet classified as aliens. It might or it might not be satisfying to Congregationalist Thomas Hooker to know that his town now contains seventy-seven churches, representing fourteen different creeds.

Industry's Silent Partners

(*Continued from Page 31*)

out to bring into the open social and economic problems which a great area of business heretofore has discussed only in secret, or ignored. Its program is related specifically only to the railways and the utility groups, but it has points of interest for all other industries, even to those which have not as yet experienced the inside delays arising from many owners, or the attacks from the outside following on owner indifference.

Chain stores, for example, accounting for about 16 per cent of the sixty-two billion dollars spent at retail annually in the United States, have been going in for public distribution of their securities. They also have been made the target of recent attack. The great individual fortunes in coal mining and oil are being pooled through public ownership.

All of these industries and activities inevitably will become targets of attack from the outside within the next few years similar to those now concentrating on the railways and the electric utilities. As they approach the scale in size of these long-established forms of big business, all of them will find, as the latter have found, that wide distribution of their securities means also growing diffusion of ownership. Unless owner interest can be stimulated the machine age may disintegrate, not from the power of political attacks from without, but from its own internal weaknesses.

The Shotgun Marriage

(*Continued from Page 60*)

requirements of both the iron and the chemical business dictated the use of only the proper coking coals, and coal control became equally necessary. The marketing of gas being one of the important sources of revenue, locations adjacent to great gas markets were dictated and capital for continuous operation made imperative.

Together these necessities of the modern business of producing iron have made the small blast furnace an economic impossibility. Science has destroyed the oldest individual industry in the history of man. But it has given us a whole new line of products of marvelous value in the chemical, pharmaceutical, and industrial world. And more than all, it has given us the priceless boon of cheaper iron and steel.

Rowland Hazard, son of Rowland G. (who organized By-Products Coke Corporation) and grandson of Rowland (who brought coal-tar chemistry to this country and thereby opened the door to cheaper iron and steel), is a director of the Interlake Iron Corp. His eldest son, Rowland G., may yet sit on that board, but not for some years. He is fourteen years old now.

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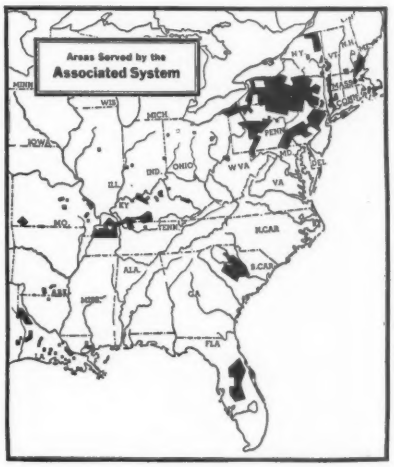

Progress in the Associated System has been especially rapid since 1920. In these years the number of customers increased from 682,469 to 1,442,106; gross earnings from $51,164,774 to $111,180,063, and number of security holders from 121 to 231,055.

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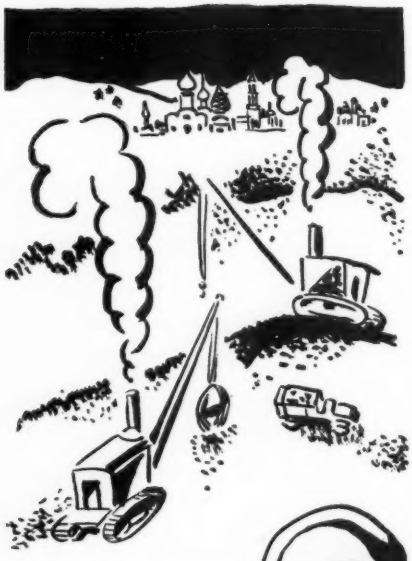

THE maze of pro and contra opinion and report now current about Soviet Russia suggests that judgment can be very much helped by going there yourself—which is not at all difficult. More than 9,000 Americans traveled to Soviet Russia in 1931. With no more expense than is involved in foreign travel elsewhere, you can select your own itinerary, travel about the country as you please, the best accommodations for twenty dollars a day, in moderate comfort for ten. The Soviet Union is a land replete with exotic and fascinating travel experiences. Intourist, the State Travel Bureau, takes care of the details. You decide where you want to go, what you want to see. Join a tour or go it alone. The whole country is open to you—the great cities in the west—Moscow, Leningrad, Kharkov, Kiev—from the Baltic to the Sea of Japan—from the ice-breaker cruises in the Arctic to the golden deserts and ancient cities of old Turkestan. . . . It's all described in General Booklet D. Before you make your travel plans, write for it—thirty-six pages of pictures, maps and travel information.

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261 FIFTH AVENUE
NEW YORK CITY

Land of the Fair God

By HOFFMAN BIRNEY

Ciudad de México is one of the most colorful cities in the world. There are quaint streets and plazas, rainbow-hued floating gardens, ancient and beautiful cathedrals, in a winterless country of sunshine

THE most beautiful railroad journey in the world, I do believe, is that from Vera Cruz to Mexico City over the Mexican Railways. Twelve hours are required for the trip of 264 miles, but each hour and each mile is one of charm unrivaled.

Banish, please, the thought of banditry that mention of Mexico invariably suggests. There is about as much danger from that source as of piracy on the high seas. Travel in Mexico today is as safe as travel in Europe, there is an excellent system of railways penetrating every section of the republic, and the present government is stable and conservative. Also, that government welcomes visitors and is genuinely desirous of friendship with the United States. Passport regulations are waived, customs inspections are far more courteous and speedy than our own, and the Mexican people have forgiven our shameful war of territorial aggrandizement.

One reaches Vera Cruz by steamer on the sixth day after leaving New York. Incidentally, the ship line will book you for all-expense, steamer-rail tours of from thirteen to nineteen days for the round trip from New York. The longer period is infinitely to be preferred. Ten days is none too long a time to spend in and around Mexico City, and the privilege of making that wonderful rail journey during the daylight hours is well worth the difference in cost between the thirteen-day and the longer tour.

Oh, that journey over the Mexican Railways! I repeat, there is none more beautiful in the world, nor will there be until steel rails cross the Chandragiri Pass and Nepal is invaded by the locomotive. Almost from the start the hills are visible, and at Esperanza, 112 miles from the port where stout Cortés landed in 1519 and which he called "the rich city of the True Cross," the tracks have climbed to an altitude of 8,000 feet above the level of the sea. The tropic heat is left below, and as the train swings around curve after succeeding curve, one gains long vistas down far blue valleys and across immeasurable gulfs. There are forested slopes and rock-walled cañons, buttresses and escarpments, and, swelling away to the horizon, the peaks and crags of the main range of the Cordillera with mighty Orizaba, second highest peak in North America, rising serene and white and eternal above all.

The train reaches Mexico City early in the evening. If you are on a personally conducted tour, your hotel accommodations are already arranged. If not, there are hotels and restaurants in the Mexican capital to suit any purse or any taste. For the sightseer there is no more interesting city in the world. There are places to go and things to see sufficient to fill the guidebook with which, if you are wise, you instantly provide yourself. There is the National Palace, the Library, the Theater, and the Museum—the last housing the Aztec Calendar Stone and the blood-blackened Rock of Sacrifice. There is the Cathedral, Chapultepec Castle, the bull ring. There are quaint streets and sunny plazas, and glimpses through barred doorways into patio gardens walled with rainbow-hued stucco.

Fifteen miles from the city are the floating gardens of Xochimilco, and as far again is San Juan Teotihuacán, where the Aztecs reared to the Sun and Moon pyramids larger than the more famous ones of Egypt. Mexico is a paradise for the archeologist, for within her boundaries flourished successive civilizations as remarkable in their culture as those of Assyria and the Nile valley.

Ten days in Mexico City and its environs is just enough to give one a faint conception of the country and to stimulate a desire to return for a longer visit. It is sufficient time to visit the Toltec ruins at Tula, and Puebla at the foot of the twin volcanoes Popocatepetl and Ixtaccihuatl—names simplified to "Popo" and "Ishtac" for the benefit of tongues used to such more limpid syllables as Schenectady and Winnepesaukee.

(*Continued on Page 76*)

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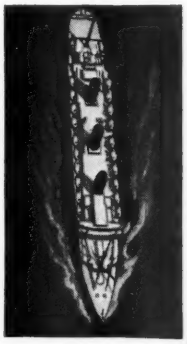

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(*Continued from Page 74*)

Near Puebla is Cholula with its church built of Aztec temple stones and standing on the summit of a pyramid dedicated to bloody-handed Huitzl; and a few miles to the north is Tlaxcala where there still stands the first edifice erected for Christian worship in the New World.

Churches! Go to Mexico if you wish to see sacred architecture worthy of place with Milan and Cologne and St. Peter's. There is no ecclesiastical building in the entire United States that can stand beside the cathedrals at Guadalajara and Morelia and superb Querétaro. Those cathedrals were building when Jamestown and Plymouth and New Amsterdam were villages of log huts. Millions were spent on their construction and adornment. They stand today, flawless, superior to transient politico-religious schisms, beautiful beneath the blue Mexican sky.

Mexico City knows no winter, nor does the intense heat of the coastal plain climb to the 7,000-foot altitude of the interior plateau. It is comfortable there in January or July. There is a large American colony, living is ridiculously cheap according to northern standards, and a knowledge of conversational Spanish, while undoubtedly convenient, is not essential. English is spoken in all the larger shops and restaurants, and willing interpreters seem to spring from the ground when their services are required.

This United States, powerful and arrogant in its power, can learn much from the Land of the Fair God. She is our next-door neighbor, yet as apart in thought, culture, and tradition as Siam. The visitor from the north will find there a history far more ancient than his own, a history living today in ancient cathedrals and older *teocalli;* he will find a people of which even the poorest peon possesses a courtesy and stately dignity inherited from hidalgos of old Castile. It is an ancient land and a pleasant land and—in spite of newspaper headlines and movie villains—a friendly land.

Youth at the Top

(*Continued from Page 53*)

IT WAS the big banquet before the annual show. Nearly every important automobile manufacturer was present. Somebody said:

"Where's Cord?"

A young man who had won first-rank leadership in the industry in record time was the only notable absentee; it transpired that he had run off for a 10,000-mile buggy ride in the first Cord car—he and one mechanic.

That is just like the 37-year-old president of the $125,000,000 Cord Corporation. On the trip he told nobody who he was. But the car, novel in design, attracted universal comment. At the curbstone, at the roadside, Cord listened. Listened to gas-station attendants, garage hands, casual strangers; men and women alike. They, he knew, were the final critics. When he came home he had a new view of the car he proposed to make. Engineers had said their last word and were ready to go into production. Cord said:

"Wait!"

He made no basic structural changes. But modifications for looks, riding comfort, and driving ease cost the company a cool half million before the first car was delivered for sale.

Errett Lobban Cord has been described as the man who substituted "pull" for push in the automobile. His outstanding characteristic is an insatiable curiosity which leads to dominant action. He is a great listener. Yet, oddly, he hates being the subject of and interview, hates the limelight.

Tall, slender, good-looking he is, with dark eyes and an intriguing cleft chin. Twelve short years ago he was jobless, with only forty-five dollars to his name. He has been "in automobiles" since he was sixteen—whether as operator of a greasing and washing station in Los Angeles, owner of a Death Valley trucking company, or salesman on Chicago's automobile row. At the age of twenty-eight he put the failing Auburn Automobile Company on its feet. (In November, 1931, he assumed, for the second time, the presidency and active control of this company.)

The Cord Corporation today controls fourteen companies, including those that make the Auburn, Cord, Deusenberg, and Lycoming motors, the Century Pacific Lines, Ltd., and many others.

When Cord bought his first airplane, he hired a pilot. On the first trip he watched, said nothing. On the second trip he said:

"I believe *I* could drive her."

"Do!" said the pilot.

Cord took the second controls, the pilot watched. From then Cord never stopped till he became a licensed pilot—and owned an airplane factory.

His latest undertaking is the Century Air Lines, Inc., which lately placed an order for three million dollars' worth of planes and engines—the largest commercial airplane order on record. This company is now operating passenger planes on hourly schedules out of Chicago, St. Louis, Detroit, Cleveland, and other cities and will eventually have a passenger-plane network over twenty states.

From now on . . .

your bill will be just about 20% less!

and yet the famed BLACKSTONE service standards remain unchanged!

THE LOWERED rates which now prevail make it a temptation to stress the economy of a stay at THE BLACKSTONE. Rates have been reduced . . . substantially! Room rates are down! Food charges have been reduced! Laundry prices . . . and all those "Incidentals" which look small individually but total noticeably . . . have been refigured with a sharpened pencil. The point is downward rate revisions apply throughout the hotel . . . not on just a room or two. On an average this makes the accommodations of one of the world's finest hotels available to you at a discount of around 20%. The prevailing schedule also refutes the idea that fine things must also be the most expensive. THE BLACKSTONE is well within the means of the most budget-minded traveller. THE BLACKSTONE inaugurates this new era of lowered costs without lowering a single service standard. For to make a single sacrifice would be to destroy that which classes THE BLACKSTONE among the really fine hotels of the world.

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The Blackstone

Chicago

Dear Jim:

Say, boy, I'm doing the thing I've wanted to do ever since I smoked my first corn silks . . . hitting the old sea trail that Morgan, and Kidd, and the rest of that jolly bunch followed when they were laying for Spanish gold. And I've a hunch it was more than gold that kept 'em down in these waters. No kidding, Jim, there's something down here that gets under your skin. These United Fruit boats are okay, too – big enough to be comfortable and small enough to be chummy. And do these boys know their tropics? Well, they ought to – been making these ports for a quarter century or more. Grand eats and lots of fun. See me and the Mrs. on the top deck looking at the moon? I said it gets you.

Why don't you and Min meet us in Guatemala City? Get hold of your tourist agent, or write the main office for all the dope. Just United Fruit Company, New York'll get 'em.*

Bob

(*It would, but anyhow it's Pier 3, North River, Dept. P, New York, N. Y.)

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Pier 74 to Sandy Hook

(*Continued from Page 11*)

but to try. He slid past the other ship, his quarter just touching her stern and carrying away two of the metal letters of her name. He had rechristened her on her way to sea. . . .

"Half speed," ordered the pilot of the Southern Prince. One wondered why—everything seemed to be clear ahead.

"We are passing the wreck of the Neches," he explained. "She rammed a coal barge and sank. We go slow past her because a salvage crew is working on her and the waves from our propellers might part their hawsers. Then too, if a diver is down, we might break his air line."

Four more lights appeared, three white and one red.

"Here comes a rum chaser," said the pilot. "How do I know? I can't tell you that, exactly, except that I see them so often. Maybe it's the distance between their lights, maybe it's the height of them. She has a boat in tow. Maybe it's a rumrunner. Make your own guesses. Use these glasses."

Through the powerful glasses, whose aid the pilot had not needed, the lights took the shape of a trim little boat. A feeble flicker of light behind showed a small motorboat in tow, bobbing up and down and sometimes hidden by the swell of the sea. The pilot, it would seem, knew the nature of nearly every craft in the harbor, and her habits and what to expect of her.

"This next one is an oil tanker," he remarked. "Dead ahead."

To the landsman there was nothing ahead resembling a tanker. But some of the lights which had seemed to be on the distant shore began slowly to change their position. They marked a huge, ghostly thing of black, not more than two hundred yards away.

When an oil tanker is rammed, it sometimes catches fire and explodes. Its oil spreads over the water and burns those who try to swim to safety. Oil boats entering and leaving American ports comprise about one fourth of all shipping. They are given a wide berth.

The Southern Prince reached Ambrose Channel, only two thousand feet wide, where ships are sometimes grounded. Buoys marked this pathway to the sea, with white lights on the south and red ones on the north. No, the ship was not too near the white ones, appearances notwithstanding. A white light is brighter than a red one, and it always seems nearer. That is one of the many things pilots learn by living a lifetime in a harbor.

The pilot knows the numbers of all the buoys as well as the look of them and the sounds that some of them make. Buoys seventeen and eighteen guide him into the channel. The swell of the sea blows a whistle intermittently on seventeen and rings a bell on eighteen. Useful knowledge, that—especially in a fog.

More earth was taken from Ambrose Channel than from the Panama Canal. It is New York's best and shortest route to the open sea. The ship plowed through this big ditch confidently. It would make the 25-mile run to Sandy Hook in two hours, on a schedule almost clocklike in its precision.

The Sandy Hook lighthouse sent a strong and reassuring signal beam. Built by the British in 1764, it is the oldest lighthouse in America. It was on the end of "the hook" then, but since that time the land has grown out more than a mile beyond it. Pilots watch the Hook's changing shape and the strong tides which are building it. Another lighthouse has been erected upon its tip and shifted twice. It is perhaps the most important marker for a vessel coming in. Many have missed it and come to grief on the coast.

"I'll have the ladder on the starboard side," said the pilot, when he was nearly out of the channel and into the open Atlantic and could see the two pilot boats standing by. He referred to the Jacob's ladder which is dropped over the side of the ship and which, in all kinds of weather and in the heaviest of seas, the pilot climbs.

There at the end of the channel were green lights marking the wreck of the Fort Victoria, which was rammed and sunk in a December fog, in 1929, as the pilot was about to leave her. One of the pilot boats narrowly missed the collision. Both, knowing her boiler might blow up at any minute, took passengers off the Fort Victoria as it filled with water. They attempted to tow the sinking ship into shallow water but did not have time. The pilot stayed on the ship with the captain. It overturned as it submerged; they walked down its hull into icy water and swam in darkness and fog until they were picked up.

The Southern Prince glided out past the wreck and came to a stop. Far down below, on the heaving surface of the water, was a yawl from one of the pilot ships. Two husky youngsters pulled at the oars. They will be pilots in ten or twelve years.

These young men have a zest for their work, because they are members of the oldest guild in America, founded in 1694 in the reign of William and Mary. The boy ahead is proud to pull the bow oar; he has worked three years for the position. In about seventeen years he will be found fit to pilot ships like the Leviathan. His earnings will not equal those of the Leviathan's skipper, but they will be substantial, and he will rank with captains.

(*Continued on Page 82*)

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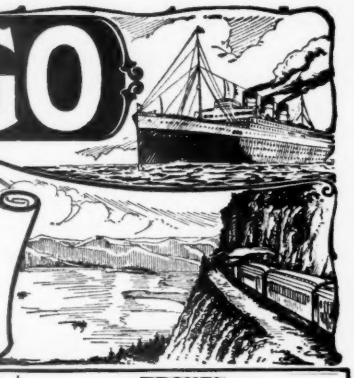

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Patent Injustice

(Continued from Page 43)

on the Beralloy Corporation. The first three years of Watts' ostensible monopoly have yielded him no profit but much pain. Some day he may be able to say, as did the late Thomas A. Edison, who spent $1,000,000 defending his electric light bulb patent:

"I have made very little profit from my inventions. In my lifetime I have taken out 1,180 patents. Counting the expense of experimenting and fighting for my claims in court, these patents have cost me more than they have returned me in royalties. I have made money through the introduction and sale of my products as a manufacturer, not as an inventor."

It is quite possible, however, that Watts might have fared worse than we saw. He might, of course, have met the fate of William Woodworth who, in 1828, obtained a patent for planing, tonguing, grooving, and cutting moldings. Mr. Woodworth's patent was the subject of fifty-four lawsuits and thirteen decisions by the Supreme Court—the high-water mark of all time.

Seeking to avoid the futile tax of litigation, American industry as long ago as 1856 (in the case of the sewing machine) devised the "patent pool." The most notably successful application of this plan has been that of the automobile manufacturers, 136 of whom in 1914 poled their patents under supervision of the National Automobile Chamber of Commerce. Cross-licensing was arranged for without the payment of royalties. During the life of this patent pool, it is estimated that more than 27,000,000 automobiles valued at $24,000,000,000 have been manufactured under its protection. Beginning with 500 patents the pool now controls more than 1,700 and its library contains detailed data on each of the 300,000 automotive patents that have been granted in this country.

Twice ratified by renewal and now participated in by all major makers save Ford and Franklin, this agreement stands as a model of coöperative business effort that has saved automobile buyers millions of dollars in eliminated royalties. The scheme wisely has been copied by the Manufacturers Aircraft Association.

The patent pool is a mixed blessing to the inventor. It eliminates competitive bidding for his discovery and limits the market to one organization; on the other hand, it gives him a large and stable outlet for his invention which may, in the end, yield him more than he could obtain from a single concern. In the case of the automobile pool, individual companies that acquire valuable patents are permitted a period of sole enjoyment lasting until the next general renewal of the pool agreement, at which time all patents are again put into the common pool.

By contrast with the automotive and aircraft industries, there is the radio industry, which is confronted with eight thousand patents. Due to the fact that many of these are in litigation but few have been adjudicated the waste is appalling. Millions have been collected from manufacturers on patents subsequently held invalid, as were the Langmuir tube and Lektophone speaker patents. Other millions have been paid out in defense of valid patents. Perhaps half of the eight thousand radio patents are controlled by the litigious RCA, against which the government has pending an antitrust action. To the RCA the Department of Justice said: Drop your many suits, pool your patents for the benefit of the industry, and the U. S. will withdraw its monopoly complaint. The offer has not been accepted, but it has borne some fruit. The RCA has settled out of court suits against almost a score of tube manufacturers involving claims of $50,000,000.

The prospects of legislative reform of the patent system seem no better than remote. Meeting in annual convention last September, the extremely influential American Bar Association deliberated over twenty suggested improvements in the patent laws. The most important of these were put forward by George H. Willits, member of the Michigan patent bar and ardent champion of reform. He urged the creation of a special supreme court of patent appeals; a bill providing for this needed tribunal was killed in Congress in 1919 because the tenure of the judgeships was six or twelve years and the judges who might have composed the court were unwilling to move their families to Washington unless the jobs were given to them for life, or the duration of their good behavior.

Mr. Willits also recommended the elimination of "dragnet applications" by limiting a patent monopoly to twenty years from the time of filing, instead of seventeen years from the date of issuance of the patent. He suggested that the Patent Office be compelled to take final action on all applications within three years of their filing.

Approving three or four trivial recommended changes in technical procedure, the Bar Association vetoed every significant plan for patent law improvement.

Such a course is understandable only in the light of what Chief Justice Hughes has said: "In the maze of human affairs and in the intricacies of inventions and adaptions, it is rarely the principle that is in dispute, and the uncertainties of application constitute the fortunes of the patent bar. Jefferson, with all his vision, could not foresee the illimitable possibilities of the expert."

World's Work Scrapbook

(*Continued from Page 39*)

DRY, porous earth makes a fine water pump for plants. Dr. L. A. Richards of Cornell who has been making a study of the flow of water in soil explains that a dry top soil is a partial vacuum. It thus overcomes the force of gravity and pulls water up from the wet subsoil. He constructed devices in which water supplied by underground tile is forced up by "pressure gradient." The same amount of water allowed to drip on the soil from above would not supply the plants' needs.

Economy and efficiency in the firing of locomotives have resulted in vast savings to the railroads in recent years. The Illinois Central, for one, has effected many improvements in mechanical appliances and methods. It now points with pride to the fact that a pound of coal will move a ton of freight 6.45 miles.

IT IS an established fact that heat is a great enemy of rubber. Tests show that tires sometimes get as hot as 200 degrees, and that this temperature shortens their life. A manufacturer now announces that a successful air-cooled tire has been devised. Hundreds of transverse holes are placed in the tire tread; the hot air is constantly being squeezed out by contact with the road and replaced by cooler air. The result, it is claimed, is a reduction of as much as 36 degrees in heat. The inventors believe that it will be possible to make such a tire containing much more rubber than the current types, and that eventually tires will be built which will last as long as the car.

The Postal Savings Bank now has deposits approaching $400,000,000—more than twice last year's figures. This increase is a phase of the prevailing thrift wave, combined with a fear of bank failures. In many cases the Postoffice Department places these funds in the very banks from which the depositors have withdrawn them, but in times of nervousness Uncle Sam's guarantee looks good to people of small means.

NOW that the American bison has been saved from extinction, the question arises as to what shall be done with him? Canada's great buffalo herd near Edmonton has grown from a few animals in 1907 to more than seven thousand. They have overtaxed the grazing facilities of Wainwright Park and have become a pretty expensive luxury. It has been decided that the herd must be kept down to a reasonable size, so fifteen hundred of the animals have been marked for slaughter this winter. Thus buffalo steaks may reappear on the American bill of fare.

(*Continued on Page 82*)

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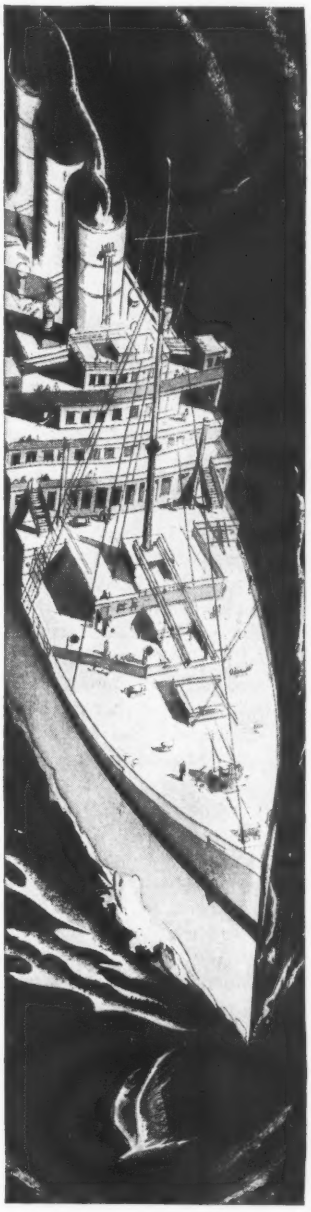

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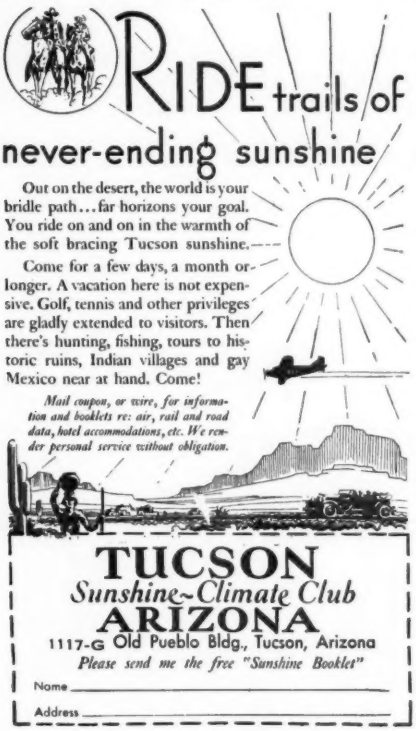
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(*Continued from Page 81*)

WHILE the Department of the Interior is reclaiming new lands for farming purposes the Department of Agriculture is cautioning us against further expansion. Obviously we have no program in this matter. A report from the U. S. Chamber of Commerce suggests that the time has come for a new land policy, based upon qualitative rather than quantitative production. The method suited to the pioneer days no longer serves us well. We must find ways to divert the poorer land from agricultural to other uses and we must check the expansion of farm land until the population catches up with the food supply. In line with this idea New York State has embarked upon an ambitious program of buying abandoned farms for reforestation.

Planting rice by airplane has proved practical in California. The plane is flown at high speed about twenty feet above the flooded field. By this means it is possible to sow from 250 to 450 acres a day at a cost of a dollar an acre. Rice sown in water matures earlier than otherwise and birds cannot eat the grain.

PROPOSALS to put a ten per cent federal excise tax on motorcars to help relieve the treasury deficit are stoutly opposed by the National Automobile Chamber of Commerce. The motorcar is an essential tool in the conduct of business. It is already the most highly taxed form of property we have. The increased tax would be a blow at the industry at a time when it is trying to break the buying jam and lead the way back to normal business.

Honey is a delicious and valuable food; it should be used freely in the human system but not at all in the cooling system of your car. The Department of Agriculture has been investigating the practice of using honey as an antifreeze solution in radiators and finds nothing in its favor. It would take two parts of honey to one of water to prevent freezing and such a syrup would flow like the proverbial molasses in January. Moreover, it tends to seep into the cylinders and to cause expensive trouble.

HEREAFTER a blind passenger will be permitted by the Pennsylvania Railroad to share his accommodations with his dog if the animal has qualified as an expert guide. To get a free ticket the dog must have a permit from the American Foundation for the Blind, showing that he has passed rigid tests. A dog being taught to lead the blind is first given several months intensive training. When he acquires a blind master his instruction continues in city traffic. The dog wears a special harness with a stiff U-shaped handle held by his sightless master. Dogs so trained become invaluable companions.

It was erroneously stated in this department in the November number that the weight limit on parcel-post packages is increased by the new ruling to 100 pounds. This is not the case. The maximum weight remains at seventy pounds but parcels up to this weight may now be sent to all zones. As stated, the post office will henceforth accept parcels with dimensions up to 100 inches, that is, length and girth combined.

DOGS have a discouraging effect upon the sheep raising industry. Southeastern Ohio, one of the few regions in the East where sheep growing is still an important occupation, has shown a decline during the last generation. According to Economic Geography, published by Clark University, this falling off is due to the increase of dogs on farms. On the western plains dogs are not numerous enough to hurt the sheep. This publication points out that sheep are always scarce in mining country, even though the grazing facilities may be good. That is because every miner owns a couple of hungry dogs.

Pier 74 to Sandy Hook

(*Continued from Page 78*)

With a hurried but cordial good-bye from the captain and the officers on watch, we go over the side, down into the night toward the heaving dark sea. It is good to see, in the ship's flood light, the bulging muscles on those young fellows below. Their yawl bounces about, rising some twenty feet at a pitch, but they smile. They're used to this business of taking off the pilot, for they do it dozens of times every day.

We pause on the wriggling rope ladder and wait for the sea to throw the boat up to us. Sometimes legs are broken as the yawl lunges against the ship's side, sometimes the little boat overturns, sometimes a man is drowned. But we are working on schedule and must let the ship continue on her way. The Berengaria is close behind, and still more vessels follow astern. We let go the ladder. There is an uncertain moment, and then we are in that little bobbing shell of wood and on our way to the pilot boat, where we shall spend the night.

The black hull of the great ship towers above us like a skyscraper. Her engines churn, and she glides past us. Several million dollars, piloted safely out to sea, are moving on in the stream of American commerce.

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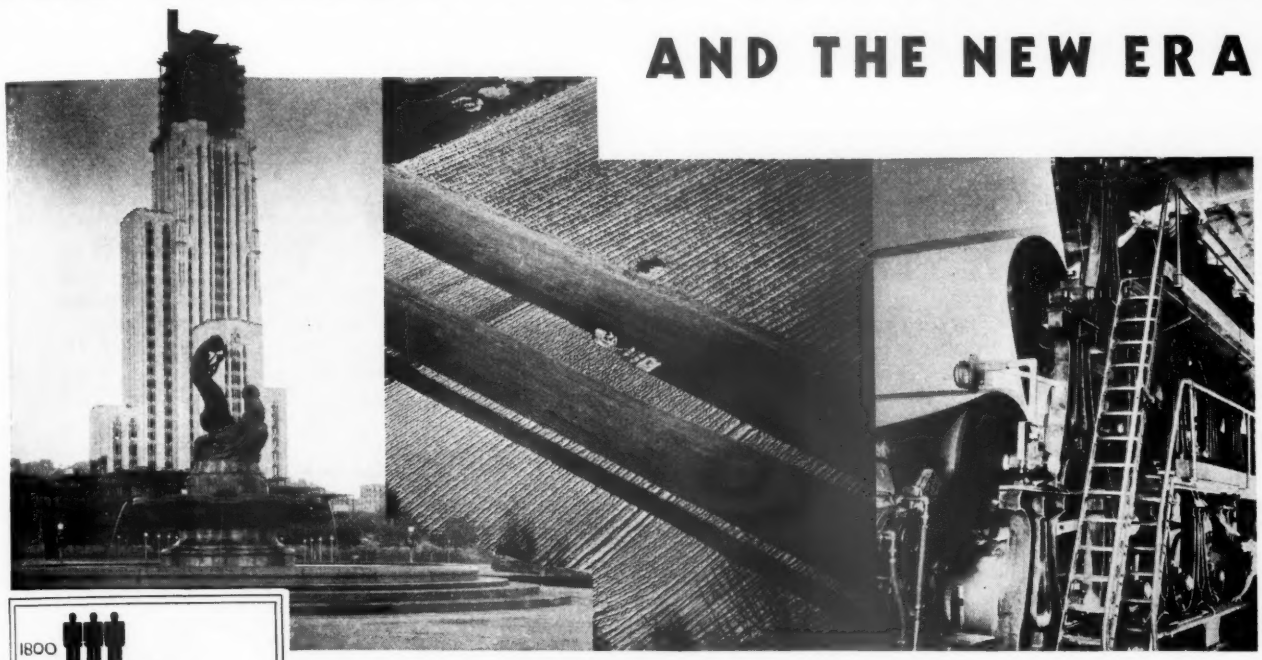

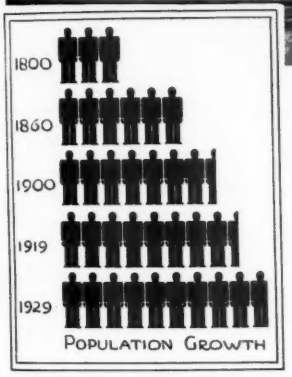

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THE WORK, WEALTH AND HAPPINESS OF MANKIND

After Hours

Goosey, Goosey, Gandhi — Whither Shall You Wander?

THERE are ever so many more people in India than there are in the United States.

The more people, the more nitwits. That logical conclusion gives us a bad start for the discussion of a delicate matter, but it is inescapable. Look at the United States; think of the nitwits. Then look at the number of people in India. Three hundred million Indians can't be right.

The chief points of contact between these sizable peoples have been three: Ruth St. Denis, Rabindranath Tagore, and Mahatma Gandhi.

It was Ruth St. Denis, you will recall, who brought the Glamour of the Orient first into the front parlors of our enlightened century. With a few yards of cloth-of-silver (subject to removal without notice), a secondhand stage prop known as the famous Shubert Buddha, which she rescued from a storehouse, Miss Ruth St. Denis set tea tables gasping, eyes rolling, and critics swooning with the mysticism of the East.

That, considering that Miss St. Denis (by her own testimony to this correspondent) had never been anywhere east of Coney Island before she put on her first Hindu dances, was a pretty sizable job of international *rapprochement*. She got us all thinking about India and its problems. Ladies whose husbands had sneaked out the back way to take in a cooch show suddenly dumfounded their men by attending the dance recitals of Miss St. Denis. One deaf such, in a Boston theater, convulsed the now assistant secretary of state by crying, after piercing use of a lorgnette: "My dear, that certainly is her navel!" Miss St. Denis, made more warm, yearning friendships for India in these United States than Rudyard Kipling ever froze.

Then Came Rab

It is only fair to Miss St. Denis to say that nobody could have been more surprised than herself to wake up, read her notices, and find India in her, so to speak, nicely modeled lap.

Not so the Sage Tagore. Under his visits there ran a current of deep and serious purpose. Nobody was very clear whether the purpose was poetic or political, mystic or metaphysical, but nobody cared much, for it was clear that under that whisker lurked a Purpose. He moved slowly, calmly, with great dignity. He posed plausibly against the bizarre California landscape; he wore somber draperies; poets said nice things about him when they could stop long enough to be articulate.

So the hirsute mission of the Sage Tagore may be said to have clinched popular sympathy for Indian Problems in the United States.

Salt of the Earth

During the next ten years a brave little man, who looks like nothing so much as Emeritus Professor Charles Townsend Copeland Emerging from the Bath, succeeded in tying a hard knot in the tail of the British lion.

Gandhi first crashed print in a big way when he went down to the sea and made salt. The salt was for England's abrasions. Single-handed, single-sheeted, he carried it to London and rubbed it in. Overseas—a wink away by radio and cable—sat the United States, hanging on his hem. Every day he grew bigger and better news.

Few people will ever know the total of cabled offers Gandhi received please to come and serve as America's foremost diversion in a season when any would be of prime acceptability; this department does not know because this department has no means of opening Gandhi's mail.

Cash offers were of course supplemented by torrents of earnest popular invitation. The senders of the invitations fell into several classes: (1) those who think that anything from India is too simply divine, or disciples of Ruth; (2) those who know darn well that there is more behind those whiskers than meets the eye in India, or disciples of Rab; (3) earnest members of the clergy who are willing to overlook ecumenical shindies if they can lay hold of a grade-A leader with a touch of the evangelical and a soft-spoken way; (4) a handful of people who know part of what they are talking about concerning India (v. Mother India) and have a notion that they can set three hundred million people right if poor Gandhi will only come over and get the right dope first-hand—these last we will call the steam-heated, nine-ply Nathan Hales.

What does Gandhi do about the invitation?

Declines. Why? Because conscientious friends here tell him that he will be more of a spectacle than not. He was tempted, you may be sure. The Great Heart of America was throbbing like everything in his direction. Rather pictorially he recalls that we ourselves once freed ourselves from the rule of England (v. British Chains), and being a grand politician he realizes that we total a ponderable fraction of world opinion, which is the public opinion that may determine India's future. He was tempted to swing that.

In declining, however, he endeared himself, rather than otherwise, to the nation that was dying to sympathize with his cause. "Aw, come ahead," we felt like writing him. "We won't kid you." But no—he preferred to hold his American friends by staying away.

Then, almost at once, his foot slipped. To the Massachusetts Anti-Prohibition League he wrote a letter on prohibition: "It was a brave step. . . . It would be a shame and a rude shock to reformers throughout the world if for any cause America abandoned the policy and returned to the drink evil." With this statement he threw overboard one half the volunteer friendship in America. He made no reference to our speak-easy industry, to the liquor-trains of trucks, to the enormous bootlegging cartels; he has evidently not seen the straw votes, nor the church manifestoes against prohibition; he is blandly oblivious of the national corruption sprung out of prohibition; he is even so bad a publicity man that he rushed in and took sides on the most controversial issue in America.

Tut, Tut—Gandhi!

What is more, he meddled. And, as a nation which was yearning to meddle in Great Britain's affairs, and which has a pretty fair meddling record, Gandhi's meddling we cannot forgive.

So probably it is just as well that we must continue to worship him from afar, in the green-and-lavender light supplied by Ruth and Rabindranath. East, as somebody has remarked is East; West, West. The twain will not meet for some little time yet—and Gandhi goes back to India, threatening to "let hell loose."